

	A	B	C	D	E	F	G	H	I	J	K	L				
1				<b>General UCL Statistics for Data Sets with Non-Detects</b>												
2	<b>User Selected Options</b>															
3	From File			MWMWD.wst												
4	Full Precision			OFF												
5	Confidence Coefficient			95%												
6	Number of Bootstrap Operations			2000												
7																
8																
9	<b>1,2-Dichlorobenzene</b>															
10																
11	<b>General Statistics</b>															
12	Number of Valid Data				78				Number of Detected Data				2			
13	Number of Distinct Detected Data				2				Number of Non-Detect Data				76			
14									Percent Non-Detects				97.44%			
15																
16	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>									
17	Minimum Detected			0.93			Minimum Detected			-0.0726						
18	Maximum Detected			1.1			Maximum Detected			0.0953						
19	Mean of Detected			1.015			Mean of Detected			0.0114						
20	SD of Detected			0.12			SD of Detected			0.119						
21	Minimum Non-Detect			0.5			Minimum Non-Detect			-0.693						
22	Maximum Non-Detect			1300			Maximum Non-Detect			7.17						
23																
24	Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect						78			
25	For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected						0			
26	Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage						100.00%			
27																
28	<b>Warning: Data set has only 2 Distinct Detected Values.</b>															
29	<b>This may not be adequate enough to compute meaningful and reliable test statistics and estimates.</b>															
30	<b>The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).</b>															
31																
32	<b>Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.</b>															
33																
34	<b>The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.</b>															
35	<b>Those methods will return a 'N/A' value on your output display!</b>															
36																
37	<b>It is necessary to have 4 or more Distinct Values for bootstrap methods.</b>															
38	<b>However, results obtained using 4 to 9 distinct values may not be reliable.</b>															
39	<b>It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.</b>															
40																
41																
42	<b>UCL Statistics</b>															
43	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>									
44	Shapiro Wilk Test Statistic			N/A			Shapiro Wilk Test Statistic			N/A						
45	5% Shapiro Wilk Critical Value			N/A			5% Shapiro Wilk Critical Value			N/A						
46	<b>Data not Normal at 5% Significance Level</b>						<b>Data not Lognormal at 5% Significance Level</b>									
47																
48	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>									
49	DL/2 Substitution Method						DL/2 Substitution Method									
50	Mean			10.4			Mean			-0.854						
51	SD			73.83			SD			1.452						
52	95% DL/2 (t) UCL			24.32			95% H-Stat (DL/2) UCL			1.929						

	A	B	C	D	E	F	G	H	I	J	K	L
53												
54	Maximum Likelihood Estimate(MLE) Method					N/A	Log ROS Method					
55	<b>MLE method failed to converge properly</b>						Mean in Log Scale					N/A
56							SD in Log Scale					N/A
57							Mean in Original Scale					N/A
58							SD in Original Scale					N/A
59							95% t UCL					N/A
60							95% Percentile Bootstrap UCL					N/A
61							95% BCA Bootstrap UCL					N/A
62							95% H-UCL					N/A
63												
64	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>					
65	k star (bias corrected)					N/A	<b>Data do not follow a Discernable Distribution (0.05)</b>					
66	Theta Star					N/A						
67	nu star					N/A						
68												
69	A-D Test Statistic					N/A	<b>Nonparametric Statistics</b>					
70	5% A-D Critical Value					N/A	Kaplan-Meier (KM) Method					
71	K-S Test Statistic					N/A	Mean					0.933
72	5% K-S Critical Value					N/A	SD					0.0205
73	<b>Data not Gamma Distributed at 5% Significance Level</b>						SE of Mean					0.00351
74							95% KM (t) UCL					0.938
75	<b>Assuming Gamma Distribution</b>						95% KM (z) UCL					0.938
76	Gamma ROS Statistics using Extrapolated Data						95% KM (jackknife) UCL					1.043
77	Minimum					N/A	95% KM (bootstrap t) UCL					N/A
78	Maximum					N/A	95% KM (BCA) UCL					1.1
79	Mean					N/A	95% KM (Percentile Bootstrap) UCL					N/A
80	Median					N/A	95% KM (Chebyshev) UCL					0.948
81	SD					N/A	97.5% KM (Chebyshev) UCL					0.954
82	k star					N/A	99% KM (Chebyshev) UCL					0.967
83	Theta star					N/A						
84	Nu star					N/A	<b>Potential UCLs to Use</b>					
85	AppChi2					N/A	95% KM (t) UCL					0.938
86	95% Gamma Approximate UCL (Use when n >= 40)					N/A	95% KM (% Bootstrap) UCL					N/A
87	95% Adjusted Gamma UCL (Use when n < 40)					N/A						
88	<b>Note: DL/2 is not a recommended method.</b>											
89												
90	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>											
91	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>											
92	<b>For additional insight, the user may want to consult a statistician.</b>											
93												
94												
95	<b>1,4-Dichlorobenzene</b>											
96												
97	<b>General Statistics</b>											
98	Number of Valid Data					78	Number of Detected Data					3
99	Number of Distinct Detected Data					2	Number of Non-Detect Data					75
100							Percent Non-Detects					96.15%
101												
102	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>					
103	Minimum Detected					1.5	Minimum Detected					0.405
104	Maximum Detected					1.9	Maximum Detected					0.642

	A	B	C	D	E	F	G	H	I	J	K	L
105	Mean of Detected					1.633	Mean of Detected					0.484
106	SD of Detected					0.231	SD of Detected					0.136
107	Minimum Non-Detect					0.64	Minimum Non-Detect					-0.446
108	Maximum Non-Detect					1600	Maximum Non-Detect					7.378
109												
110	Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect					78
111	For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected					0
112	Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage					100.00%
113												
114	<b>Warning: Data set has only 2 Distinct Detected Values.</b>											
115	<b>This may not be adequate enough to compute meaningful and reliable test statistics and estimates.</b>											
116	<b>The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).</b>											
117												
118	<b>Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.</b>											
119												
120	<b>The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.</b>											
121	<b>Those methods will return a 'N/A' value on your output display!</b>											
122												
123	<b>It is necessary to have 4 or more Distinct Values for bootstrap methods.</b>											
124	<b>However, results obtained using 4 to 9 distinct values may not be reliable.</b>											
125	<b>It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.</b>											
126												
127												
128	<b>UCL Statistics</b>											
129	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>					
130	Shapiro Wilk Test Statistic					0.75	Shapiro Wilk Test Statistic					0.75
131	5% Shapiro Wilk Critical Value					0.767	5% Shapiro Wilk Critical Value					0.767
132	<b>Data not Normal at 5% Significance Level</b>						<b>Data not Lognormal at 5% Significance Level</b>					
133												
134	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>					
135	DL/2 Substitution Method						DL/2 Substitution Method					
136	Mean					12.88	Mean					-0.581
137	SD					90.87	SD					1.456
138	95% DL/2 (t) UCL					30.02	95% H-Stat (DL/2) UCL					2.553
139												
140	Maximum Likelihood Estimate(MLE) Method						Log ROS Method					
141	<b>MLE method failed to converge properly</b>						Mean in Log Scale					-0.645
142							SD in Log Scale					0.504
143							Mean in Original Scale					0.596
144							SD in Original Scale					0.321
145							95% t UCL					0.656
146							95% Percentile Bootstrap UCL					0.654
147							95% BCA Bootstrap UCL					0.658
148							95% H-UCL					0.663
149												
150	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>					
151	k star (bias corrected)					N/A	<b>Data do not follow a Discernable Distribution (0.05)</b>					
152	Theta Star					N/A						
153	nu star					N/A						
154												
155	A-D Test Statistic					N/A	<b>Nonparametric Statistics</b>					
156	5% A-D Critical Value					N/A	Kaplan-Meier (KM) Method					

	A	B	C	D	E	F	G	H	I	J	K	L	
157	K-S Test Statistic					N/A	Mean					1.506	
158	5% K-S Critical Value					N/A	SD					0.0481	
159	<b>Data not Gamma Distributed at 5% Significance Level</b>						SE of Mean					0.00715	
160							95% KM (t) UCL					1.518	
161	<b>Assuming Gamma Distribution</b>						95% KM (z) UCL					1.518	
162	Gamma ROS Statistics using Extrapolated Data						95% KM (jackknife) UCL					1.516	
163	Minimum						N/A	95% KM (bootstrap t) UCL					N/A
164	Maximum						N/A	95% KM (BCA) UCL					N/A
165	Mean						N/A	95% KM (Percentile Bootstrap) UCL					N/A
166	Median						N/A	95% KM (Chebyshev) UCL					1.537
167	SD						N/A	97.5% KM (Chebyshev) UCL					1.551
168	k star						N/A	99% KM (Chebyshev) UCL					1.577
169	Theta star						N/A						
170	Nu star						N/A	<b>Potential UCLs to Use</b>					
171	AppChi2						N/A	95% KM (t) UCL					1.518
172	95% Gamma Approximate UCL (Use when n >= 40)						N/A	95% KM (% Bootstrap) UCL					N/A
173	95% Adjusted Gamma UCL (Use when n < 40)						N/A						
174	<b>Note: DL/2 is not a recommended method.</b>												
175													
176	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>												
177	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>												
178	<b>For additional insight, the user may want to consult a statistician.</b>												
179													
180													
181	<b>2,4-Dimethylphenol</b>												
182													
183	<b>General Statistics</b>												
184	Number of Valid Data					78	Number of Detected Data					4	
185	Number of Distinct Detected Data					4	Number of Non-Detect Data					74	
186							Percent Non-Detects					94.87%	
187													
188	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>						
189	Minimum Detected					5.2	Minimum Detected					1.649	
190	Maximum Detected					17	Maximum Detected					2.833	
191	Mean of Detected					8.875	Mean of Detected					2.063	
192	SD of Detected					5.514	SD of Detected					0.539	
193	Minimum Non-Detect					3.4	Minimum Non-Detect					1.224	
194	Maximum Non-Detect					70	Maximum Non-Detect					4.248	
195													
196	Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect					78	
197	For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected					0	
198	Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage					100.00%	
199													
200	<b>Warning: There are only 4 Distinct Detected Values in this data</b>												
201	<b>Note: It should be noted that even though bootstrap may be performed on this data set</b>												
202	<b>the resulting calculations may not be reliable enough to draw conclusions</b>												
203													
204	<b>It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.</b>												
205													
206													
207	<b>UCL Statistics</b>												
208	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>						

	A	B	C	D	E	F	G	H	I	J	K	L
209	Shapiro Wilk Test Statistic					0.779	Shapiro Wilk Test Statistic					0.854
210	5% Shapiro Wilk Critical Value					0.748	5% Shapiro Wilk Critical Value					0.748
211	<b>Data appear Normal at 5% Significance Level</b>					<b>Data appear Lognormal at 5% Significance Level</b>						
212												
213	<b>Assuming Normal Distribution</b>					<b>Assuming Lognormal Distribution</b>						
214	DL/2 Substitution Method						DL/2 Substitution Method					
215	Mean					3.169	Mean					0.791
216	SD					4.937	SD					0.635
217	95% DL/2 (t) UCL					4.1	95% H-Stat (DL/2) UCL					3.104
218												
219	Maximum Likelihood Estimate(MLE) Method					N/A	Log ROS Method					
220	<b>MLE method failed to converge properly</b>						Mean in Log Scale					-1.996
221							SD in Log Scale					1.87
222							Mean in Original Scale					0.764
223							SD in Original Scale					2.243
224							95% t UCL					1.186
225							95% Percentile Bootstrap UCL					1.212
226							95% BCA Bootstrap UCL					1.462
227							95% H-UCL					1.566
228												
229	<b>Gamma Distribution Test with Detected Values Only</b>					<b>Data Distribution Test with Detected Values Only</b>						
230	k star (bias corrected)					1.243	<b>Data appear Normal at 5% Significance Level</b>					
231	Theta Star					7.14						
232	nu star					9.943						
233												
234	A-D Test Statistic					0.502	<b>Nonparametric Statistics</b>					
235	5% A-D Critical Value					0.659	Kaplan-Meier (KM) Method					
236	K-S Test Statistic					0.659	Mean					5.401
237	5% K-S Critical Value					0.396	SD					1.396
238	<b>Data appear Gamma Distributed at 5% Significance Level</b>						SE of Mean					0.189
239							95% KM (t) UCL					5.716
240	<b>Assuming Gamma Distribution</b>						95% KM (z) UCL					5.712
241	Gamma ROS Statistics using Extrapolated Data						95% KM (jackknife) UCL					5.767
242	Minimum					0.000001	95% KM (bootstrap t) UCL					6.238
243	Maximum					17	95% KM (BCA) UCL					N/A
244	Mean					0.455	95% KM (Percentile Bootstrap) UCL					8.115
245	Median					0.000001	95% KM (Chebyshev) UCL					6.224
246	SD					2.251	97.5% KM (Chebyshev) UCL					6.58
247	k star					0.0753	99% KM (Chebyshev) UCL					7.279
248	Theta star					6.048						
249	Nu star					11.74	<b>Potential UCLs to Use</b>					
250	AppChi2					5.056	95% KM (t) UCL					5.716
251	95% Gamma Approximate UCL (Use when n >= 40)					1.057	95% KM (Percentile Bootstrap) UCL					8.115
252	95% Adjusted Gamma UCL (Use when n < 40)					N/A						
253	<b>Note: DL/2 is not a recommended method.</b>											
254												
255	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>											
256	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>											
257	<b>For additional insight, the user may want to consult a statistician.</b>											
258												
259												
260	<b>2,4-Dinitrotoluene</b>											

	A	B	C	D	E	F	G	H	I	J	K	L	
261													
262	<b>General Statistics</b>												
263	Number of Valid Data					78		Number of Detected Data					0
264	Number of Distinct Detected Data					0		Number of Non-Detect Data					78
265											Percent Non-Detects	100.00%	
266													
267	<b>Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!</b>												
268	<b>Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!</b>												
269	<b>The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).</b>												
270													
271	<b>The data set for variable 2,4-Dinitrotoluene was not processed!</b>												
272													
273													
274													
275	<b>2-Methylphenol</b>												
276													
277	<b>General Statistics</b>												
278	Number of Valid Data					78		Number of Detected Data					2
279	Number of Distinct Detected Data					2		Number of Non-Detect Data					76
280											Percent Non-Detects	97.44%	
281													
282	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>						
283	Minimum Detected				3.9		Minimum Detected				1.361		
284	Maximum Detected				6.1		Maximum Detected				1.808		
285	Mean of Detected				5		Mean of Detected				1.585		
286	SD of Detected				1.556		SD of Detected				0.316		
287	Minimum Non-Detect				1.8		Minimum Non-Detect				0.588		
288	Maximum Non-Detect				36		Maximum Non-Detect				3.584		
289													
290	Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect						78
291	For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected						0
292	Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage						100.00%
293													
294	<b>Warning: Data set has only 2 Distinct Detected Values.</b>												
295	<b>This may not be adequate enough to compute meaningful and reliable test statistics and estimates.</b>												
296	<b>The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).</b>												
297													
298	<b>Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.</b>												
299													
300	<b>The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.</b>												
301	<b>Those methods will return a 'N/A' value on your output display!</b>												
302													
303	<b>It is necessary to have 4 or more Distinct Values for bootstrap methods.</b>												
304	<b>However, results obtained using 4 to 9 distinct values may not be reliable.</b>												
305	<b>It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.</b>												
306													
307													
308	<b>UCL Statistics</b>												
309	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>						
310	Shapiro Wilk Test Statistic				N/A		Shapiro Wilk Test Statistic				N/A		
311	5% Shapiro Wilk Critical Value				N/A		5% Shapiro Wilk Critical Value				N/A		
312	<b>Data not Normal at 5% Significance Level</b>						<b>Data not Lognormal at 5% Significance Level</b>						

	A	B	C	D	E	F	G	H	I	J	K	L		
313														
314	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>							
315	DL/2 Substitution Method						DL/2 Substitution Method							
316	Mean						1.549	Mean						0.094
317	SD						2.452	SD						0.603
318	95% DL/2 (t) UCL						2.011	95% H-Stat (DL/2) UCL						1.504
319														
320	Maximum Likelihood Estimate(MLE) Method						N/A	Log ROS Method						
321	<b>MLE method failed to converge properly</b>						Mean in Log Scale						N/A	
322							SD in Log Scale						N/A	
323							Mean in Original Scale						N/A	
324							SD in Original Scale						N/A	
325							95% t UCL						N/A	
326							95% Percentile Bootstrap UCL						N/A	
327							95% BCA Bootstrap UCL						N/A	
328							95% H-UCL						N/A	
329														
330	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>							
331	k star (bias corrected)						N/A	<b>Data do not follow a Discernable Distribution (0.05)</b>						
332	Theta Star						N/A							
333	nu star						N/A							
334														
335	A-D Test Statistic						N/A	<b>Nonparametric Statistics</b>						
336	5% A-D Critical Value						N/A	Kaplan-Meier (KM) Method						
337	K-S Test Statistic						N/A	Mean						3.93
338	5% K-S Critical Value						N/A	SD						0.256
339	<b>Data not Gamma Distributed at 5% Significance Level</b>						SE of Mean						0.0423	
340							95% KM (t) UCL						4.001	
341	<b>Assuming Gamma Distribution</b>						95% KM (z) UCL						4	
342	Gamma ROS Statistics using Extrapolated Data						95% KM (jackknife) UCL						5.355	
343	Minimum						N/A	95% KM (bootstrap t) UCL						N/A
344	Maximum						N/A	95% KM (BCA) UCL						N/A
345	Mean						N/A	95% KM (Percentile Bootstrap) UCL						6.1
346	Median						N/A	95% KM (Chebyshev) UCL						4.115
347	SD						N/A	97.5% KM (Chebyshev) UCL						4.194
348	k star						N/A	99% KM (Chebyshev) UCL						4.351
349	Theta star						N/A							
350	Nu star						N/A	<b>Potential UCLs to Use</b>						
351	AppChi2						N/A	95% KM (t) UCL						4.001
352	95% Gamma Approximate UCL (Use when n >= 40)						N/A	95% KM (% Bootstrap) UCL						6.1
353	95% Adjusted Gamma UCL (Use when n < 40)						N/A							
354	<b>Note: DL/2 is not a recommended method.</b>													
355														
356	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>													
357	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>													
358	<b>For additional insight, the user may want to consult a statistician.</b>													
359														
360														
361	<b>3 &amp; 4 Methylphenol</b>													
362														
363	<b>General Statistics</b>													
364	Number of Valid Data						78	Number of Detected Data						7

	A	B	C	D	E	F	G	H	I	J	K	L
365	Number of Distinct Detected Data					7	Number of Non-Detect Data					71
366	Percent Non-Detects											91.03%
367												
368	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>					
369	Minimum Detected				0.44	Minimum Detected				-0.821		
370	Maximum Detected				14	Maximum Detected				2.639		
371	Mean of Detected				5.096	Mean of Detected				0.805		
372	SD of Detected				5.534	SD of Detected				1.541		
373	Minimum Non-Detect				0.38	Minimum Non-Detect				-0.968		
374	Maximum Non-Detect				4.1	Maximum Non-Detect				1.411		
375												
376	Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect				75	
377	For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected				3	
378	Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage				96.15%	
379												
380	<b>Warning: There are only 7 Detected Values in this data</b>											
381	<b>Note: It should be noted that even though bootstrap may be performed on this data set</b>											
382	<b>the resulting calculations may not be reliable enough to draw conclusions</b>											
383												
384	<b>It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.</b>											
385												
386												
387	<b>UCL Statistics</b>											
388	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>					
389	Shapiro Wilk Test Statistic				0.827	Shapiro Wilk Test Statistic				0.833		
390	5% Shapiro Wilk Critical Value				0.803	5% Shapiro Wilk Critical Value				0.803		
391	<b>Data appear Normal at 5% Significance Level</b>						<b>Data appear Lognormal at 5% Significance Level</b>					
392												
393	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>					
394	DL/2 Substitution Method					DL/2 Substitution Method						
395	Mean				0.705	Mean				-1.302		
396	SD				2.1	SD				0.909		
397	95% DL/2 (t) UCL				1.101	95% H-Stat (DL/2) UCL				0.515		
398												
399	Maximum Likelihood Estimate(MLE) Method				N/A	Log ROS Method						
400	<b>MLE yields a negative mean</b>						Mean in Log Scale				-6.589	
401												
402												
403												
404												
405												
406												
407												
408												
409	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>					
410	k star (bias corrected)				0.512	<b>Data appear Normal at 5% Significance Level</b>						
411	Theta Star				9.951							
412	nu star				7.169							
413												
414	A-D Test Statistic				0.595	<b>Nonparametric Statistics</b>						
415	5% A-D Critical Value				0.737	Kaplan-Meier (KM) Method						
416	K-S Test Statistic				0.737	Mean				0.859		

	A	B	C	D	E	F	G	H	I	J	K	L	
417	5% K-S Critical Value					0.323	SD					2.032	
418	<b>Data appear Gamma Distributed at 5% Significance Level</b>						SE of Mean					0.248	
419							95% KM (t) UCL					1.272	
420	<b>Assuming Gamma Distribution</b>						95% KM (z) UCL					1.267	
421	Gamma ROS Statistics using Extrapolated Data						95% KM (jackknife) UCL					1.208	
422	Minimum						0.000001	95% KM (bootstrap t) UCL					1.486
423	Maximum						14	95% KM (BCA) UCL					2.569
424	Mean						0.457	95% KM (Percentile Bootstrap) UCL					1.59
425	Median						0.000001	95% KM (Chebyshev) UCL					1.942
426	SD						2.13	97.5% KM (Chebyshev) UCL					2.41
427	k star						0.0778	99% KM (Chebyshev) UCL					3.331
428	Theta star						5.879						
429	Nu star						12.13	<b>Potential UCLs to Use</b>					
430	AppChi2						5.316	95% KM (t) UCL					1.272
431	95% Gamma Approximate UCL (Use when n >= 40)						1.044	95% KM (Percentile Bootstrap) UCL					1.59
432	95% Adjusted Gamma UCL (Use when n < 40)						1.061						
433	<b>Note: DL/2 is not a recommended method.</b>												
434													
435	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>												
436	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>												
437	<b>For additional insight, the user may want to consult a statistician.</b>												
438													
439													
440	<b>Acenaphthene</b>												
441													
442	<b>General Statistics</b>												
443	Number of Valid Data					78	Number of Detected Data					16	
444	Number of Distinct Detected Data					15	Number of Non-Detect Data					62	
445							Percent Non-Detects					79.49%	
446													
447	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>						
448	Minimum Detected					0.2	Minimum Detected					-1.609	
449	Maximum Detected					3.9	Maximum Detected					1.361	
450	Mean of Detected					0.858	Mean of Detected					-0.607	
451	SD of Detected					1.112	SD of Detected					0.861	
452	Minimum Non-Detect					0.16	Minimum Non-Detect					-1.833	
453	Maximum Non-Detect					3.2	Maximum Non-Detect					1.163	
454													
455	Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect					76	
456	For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected					2	
457	Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage					97.44%	
458													
459	<b>UCL Statistics</b>												
460	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>						
461	Shapiro Wilk Test Statistic					0.569	Shapiro Wilk Test Statistic					0.854	
462	5% Shapiro Wilk Critical Value					0.887	5% Shapiro Wilk Critical Value					0.887	
463	<b>Data not Normal at 5% Significance Level</b>						<b>Data not Lognormal at 5% Significance Level</b>						
464													
465	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>						
466	DL/2 Substitution Method						DL/2 Substitution Method						
467	Mean					0.288	Mean					-1.98	
468	SD					0.608	SD					0.967	

	A	B	C	D	E	F	G	H	I	J	K	L
469	95% DL/2 (t) UCL					0.402	95% H-Stat (DL/2) UCL					0.282
470												
471	Maximum Likelihood Estimate(MLE) Method					N/A	Log ROS Method					
472	<b>MLE method failed to converge properly</b>						Mean in Log Scale					-3.063
473							SD in Log Scale					1.713
474							Mean in Original Scale					0.211
475							SD in Original Scale					0.593
476							95% t UCL					0.323
477							95% Percentile Bootstrap UCL					0.326
478							95% BCA Bootstrap UCL					0.39
479							95% H-UCL					0.369
480												
481	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>					
482	k star (bias corrected)					1.05	<b>Data do not follow a Discernable Distribution (0.05)</b>					
483	Theta Star					0.817						
484	nu star					33.61						
485												
486	A-D Test Statistic					1.644	<b>Nonparametric Statistics</b>					
487	5% A-D Critical Value					0.759	Kaplan-Meier (KM) Method					
488	K-S Test Statistic					0.759	Mean					0.338
489	5% K-S Critical Value					0.22	SD					0.556
490	<b>Data not Gamma Distributed at 5% Significance Level</b>						SE of Mean					0.0651
491							95% KM (t) UCL					0.446
492	<b>Assuming Gamma Distribution</b>						95% KM (z) UCL					0.445
493	Gamma ROS Statistics using Extrapolated Data						95% KM (jackknife) UCL					0.437
494	Minimum					0.000001	95% KM (bootstrap t) UCL					0.715
495	Maximum					3.9	95% KM (BCA) UCL					0.499
496	Mean					0.176	95% KM (Percentile Bootstrap) UCL					0.473
497	Median					0.000001	95% KM (Chebyshev) UCL					0.622
498	SD					0.602	97.5% KM (Chebyshev) UCL					0.744
499	k star					0.0932	99% KM (Chebyshev) UCL					0.986
500	Theta star					1.889						
501	Nu star					14.54	<b>Potential UCLs to Use</b>					
502	AppChi2					6.943	95% KM (t) UCL					0.446
503	95% Gamma Approximate UCL (Use when n >= 40)					0.369	95% KM (% Bootstrap) UCL					0.473
504	95% Adjusted Gamma UCL (Use when n < 40)					0.374						
505	<b>Note: DL/2 is not a recommended method.</b>											
506												
507	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>											
508	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>											
509	<b>For additional insight, the user may want to consult a statistician.</b>											
510												
511												
512	<b>Acetone</b>											
513												
514	<b>General Statistics</b>											
515	Number of Valid Data					78	Number of Detected Data					1
516	Number of Distinct Detected Data					1	Number of Non-Detect Data					77
517							Percent Non-Detects					98.72%
518												
519	<b>Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!</b>											
520	<b>It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).</b>											

	A	B	C	D	E	F	G	H	I	J	K	L		
521														
522	<b>The data set for variable Acetone was not processed!</b>													
523														
524														
525														
526	<b>Anthracene</b>													
527														
528	<b>General Statistics</b>													
529	Number of Valid Data					78		Number of Detected Data					9	
530	Number of Distinct Detected Data					9		Number of Non-Detect Data					69	
531	Percent Non-Detects											88.46%		
532														
533	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>							
534	Minimum Detected					0.18		Minimum Detected					-1.715	
535	Maximum Detected					8.5		Maximum Detected					2.14	
536	Mean of Detected					1.553		Mean of Detected					-0.486	
537	SD of Detected					2.693		SD of Detected					1.327	
538	Minimum Non-Detect					0.18		Minimum Non-Detect					-1.715	
539	Maximum Non-Detect					3.6		Maximum Non-Detect					1.281	
540														
541	Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect						77	
542	For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected						1	
543	Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage						98.72%	
544														
545	<b>Warning: There are only 9 Detected Values in this data</b>													
546	<b>Note: It should be noted that even though bootstrap may be performed on this data set</b>													
547	<b>the resulting calculations may not be reliable enough to draw conclusions</b>													
548														
549	<b>It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.</b>													
550														
551														
552	<b>UCL Statistics</b>													
553	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>							
554	Shapiro Wilk Test Statistic					0.578		Shapiro Wilk Test Statistic					0.863	
555	5% Shapiro Wilk Critical Value					0.829		5% Shapiro Wilk Critical Value					0.829	
556	<b>Data not Normal at 5% Significance Level</b>						<b>Data appear Lognormal at 5% Significance Level</b>							
557														
558	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>							
559	DL/2 Substitution Method							DL/2 Substitution Method						
560	Mean					0.313		Mean					-2.034	
561	SD					1.007		SD					0.895	
562	95% DL/2 (t) UCL					0.503		95% H-Stat (DL/2) UCL					0.243	
563														
564	Maximum Likelihood Estimate(MLE) Method						N/A		Log ROS Method					
565	<b>MLE method failed to converge properly</b>						Mean in Log Scale						-5.663	
566	SD in Log Scale											2.926		
567	Mean in Original Scale											0.189		
568	SD in Original Scale											1		
569	95% t UCL											0.377		
570	95% Percentile Bootstrap UCL											0.405		
571	95% BCA Bootstrap UCL											0.563		
572	95% H-UCL											1.195		

	A	B	C	D	E	F	G	H	I	J	K	L
573												
574	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>					
575	k star (bias corrected)					0.513	<b>Data appear Lognormal at 5% Significance Level</b>					
576	Theta Star					3.029						
577	nu star					9.232						
578												
579	A-D Test Statistic					0.883	<b>Nonparametric Statistics</b>					
580	5% A-D Critical Value					0.759	Kaplan-Meier (KM) Method					
581	K-S Test Statistic					0.759	Mean					0.34
582	5% K-S Critical Value					0.291	SD					0.968
583	<b>Data not Gamma Distributed at 5% Significance Level</b>						SE of Mean					0.116
584							95% KM (t) UCL					0.534
585	<b>Assuming Gamma Distribution</b>						95% KM (z) UCL					0.532
586	Gamma ROS Statistics using Extrapolated Data						95% KM (jackknife) UCL					0.516
587	Minimum					0.000001	95% KM (bootstrap t) UCL					1.042
588	Maximum					8.5	95% KM (BCA) UCL					0.637
589	Mean					0.179	95% KM (Percentile Bootstrap) UCL					0.572
590	Median					0.000001	95% KM (Chebyshev) UCL					0.848
591	SD					1.002	97.5% KM (Chebyshev) UCL					1.067
592	k star					0.0846	99% KM (Chebyshev) UCL					1.499
593	Theta star					2.118						
594	Nu star					13.2	<b>Potential UCLs to Use</b>					
595	AppChi2					6.027	95% KM (BCA) UCL					0.637
596	95% Gamma Approximate UCL (Use when n >= 40)					0.393						
597	95% Adjusted Gamma UCL (Use when n < 40)					0.399						
598	<b>Note: DL/2 is not a recommended method.</b>											
599												
600	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>											
601	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>											
602	<b>For additional insight, the user may want to consult a statistician.</b>											
603												
604												
605	<b>Antimony</b>											
606												
607	<b>General Statistics</b>											
608	Number of Valid Data					78	Number of Detected Data					0
609	Number of Distinct Detected Data					0	Number of Non-Detect Data					78
610							Percent Non-Detects					100.00%
611												
612	<b>Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!</b>											
613	<b>Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!</b>											
614	<b>The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).</b>											
615												
616	<b>The data set for variable Antimony was not processed!</b>											
617												
618												
619												
620	<b>Arsenic</b>											
621												
622	<b>General Statistics</b>											
623	Number of Valid Data					78	Number of Detected Data					35
624	Number of Distinct Detected Data					26	Number of Non-Detect Data					43

	A	B	C	D	E	F	G	H	I	J	K	L
625							Percent Non-Detects					55.13%
626												
627	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>					
628	Minimum Detected					4.1	Minimum Detected					1.411
629	Maximum Detected					180	Maximum Detected					5.193
630	Mean of Detected					18.35	Mean of Detected					2.495
631	SD of Detected					29.9	SD of Detected					0.76
632	Minimum Non-Detect					4	Minimum Non-Detect					1.386
633	Maximum Non-Detect					4	Maximum Non-Detect					1.386
634												
635												
636	<b>UCL Statistics</b>											
637	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>					
638	Shapiro Wilk Test Statistic					0.407	Shapiro Wilk Test Statistic					0.899
639	5% Shapiro Wilk Critical Value					0.934	5% Shapiro Wilk Critical Value					0.934
640	<b>Data not Normal at 5% Significance Level</b>						<b>Data not Lognormal at 5% Significance Level</b>					
641												
642	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>					
643	DL/2 Substitution Method						DL/2 Substitution Method					
644	Mean					9.337	Mean					1.502
645	SD					21.49	SD					1.034
646	95% DL/2 (t) UCL					13.39	95% H-Stat (DL/2) UCL					10.04
647												
648	Maximum Likelihood Estimate(MLE) Method					N/A	Log ROS Method					
649	<b>MLE yields a negative mean</b>						Mean in Log Scale					1.317
650							SD in Log Scale					1.323
651							Mean in Original Scale					9.255
652							SD in Original Scale					21.54
653							95% t UCL					13.31
654							95% Percentile Bootstrap UCL					13.77
655							95% BCA Bootstrap UCL					16.71
656							95% H-UCL					13.27
657												
658	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>					
659	k star (bias corrected)					1.252	<b>Data do not follow a Discernable Distribution (0.05)</b>					
660	Theta Star					14.66						
661	nu star					87.64						
662												
663	A-D Test Statistic					2.374	<b>Nonparametric Statistics</b>					
664	5% A-D Critical Value					0.769	Kaplan-Meier (KM) Method					
665	K-S Test Statistic					0.769	Mean					10.49
666	5% K-S Critical Value					0.152	SD					20.98
667	<b>Data not Gamma Distributed at 5% Significance Level</b>						SE of Mean					2.41
668							95% KM (t) UCL					14.51
669	<b>Assuming Gamma Distribution</b>						95% KM (z) UCL					14.46
670	Gamma ROS Statistics using Extrapolated Data						95% KM (jackknife) UCL					14.42
671	Minimum					0.000001	95% KM (bootstrap t) UCL					22.26
672	Maximum					180	95% KM (BCA) UCL					16.03
673	Mean					8.235	95% KM (Percentile Bootstrap) UCL					15.15
674	Median					0.000001	95% KM (Chebyshev) UCL					21
675	SD					21.89	97.5% KM (Chebyshev) UCL					25.54
676	k star					0.0999	99% KM (Chebyshev) UCL					34.47

	A	B	C	D	E	F	G	H	I	J	K	L	
677					Theta star	82.45							
678					Nu star	15.58	<b>Potential UCLs to Use</b>						
679					AppChi2	7.667				95% KM (t) UCL		14.51	
680					95% Gamma Approximate UCL (Use when n >= 40)	16.73				95% KM (% Bootstrap) UCL		15.15	
681					95% Adjusted Gamma UCL (Use when n < 40)	16.97							
682	<b>Note: DL/2 is not a recommended method.</b>												
683													
684	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>												
685	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>												
686	<b>For additional insight, the user may want to consult a statistician.</b>												
687													
688													
689	<b>Barium</b>												
690													
691	<b>General Statistics</b>												
692					Number of Valid Observations	78				Number of Distinct Observations		59	
693													
694	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>						
695					Minimum	10				Minimum of Log Data		2.303	
696					Maximum	1300				Maximum of Log Data		7.17	
697					Mean	257.6				Mean of log Data		5.028	
698					Geometric Mean	152.7				SD of log Data		1.124	
699					Median	160							
700					SD	252.3							
701					Std. Error of Mean	28.57							
702					Coefficient of Variation	0.98							
703					Skewness	1.614							
704													
705	<b>Relevant UCL Statistics</b>												
706	<b>Normal Distribution Test</b>						<b>Lognormal Distribution Test</b>						
707					Lilliefors Test Statistic	0.163				Lilliefors Test Statistic		0.104	
708					Lilliefors Critical Value	0.1				Lilliefors Critical Value		0.1	
709	<b>Data not Normal at 5% Significance Level</b>						<b>Data not Lognormal at 5% Significance Level</b>						
710													
711	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>						
712					95% Student's-t UCL	305.1				95% H-UCL		390	
713	<b>95% UCLs (Adjusted for Skewness)</b>						95% Chebyshev (MVUE) UCL						477.7
714					95% Adjusted-CLT UCL (Chen-1995)	310.2				97.5% Chebyshev (MVUE) UCL		561.7	
715					95% Modified-t UCL (Johnson-1978)	306				99% Chebyshev (MVUE) UCL		726.7	
716													
717	<b>Gamma Distribution Test</b>						<b>Data Distribution</b>						
718					k star (bias corrected)	1.059	<b>Data appear Gamma Distributed at 5% Significance Level</b>						
719					Theta Star	243.2							
720					MLE of Mean	257.6							
721					MLE of Standard Deviation	250.3							
722					nu star	165.2							
723					Approximate Chi Square Value (.05)	136.5	<b>Nonparametric Statistics</b>						
724					Adjusted Level of Significance	0.0469				95% CLT UCL		304.6	
725					Adjusted Chi Square Value	136				95% Jackknife UCL		305.1	
726										95% Standard Bootstrap UCL		303	
727					Anderson-Darling Test Statistic	0.638				95% Bootstrap-t UCL		310.6	
728					Anderson-Darling 5% Critical Value	0.78				95% Hall's Bootstrap UCL		314.6	

	A	B	C	D	E	F	G	H	I	J	K	L
729	Kolmogorov-Smirnov Test Statistic					0.0816	95% Percentile Bootstrap UCL					305.7
730	Kolmogorov-Smirnov 5% Critical Value					0.104	95% BCA Bootstrap UCL					314.5
731	<b>Data appear Gamma Distributed at 5% Significance Level</b>						95% Chebyshev(Mean, Sd) UCL					382.1
732							97.5% Chebyshev(Mean, Sd) UCL					436
733	<b>Assuming Gamma Distribution</b>						99% Chebyshev(Mean, Sd) UCL					541.9
734	95% Approximate Gamma UCL (Use when n >= 40)					311.8						
735	95% Adjusted Gamma UCL (Use when n < 40)					312.9						
736												
737	<b>Potential UCL to Use</b>						Use 95% Approximate Gamma UCL					311.8
738												
739	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>											
740	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)</b>											
741	<b>and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.</b>											
742												
743												
744	<b>Benzene</b>											
745												
746	<b>General Statistics</b>											
747	Number of Valid Data					132	Number of Detected Data					42
748	Number of Distinct Detected Data					38	Number of Non-Detect Data					90
749							Percent Non-Detects					68.18%
750												
751	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>					
752	Minimum Detected					0.43	Minimum Detected					-0.844
753	Maximum Detected					190000	Maximum Detected					12.15
754	Mean of Detected					6833	Mean of Detected					3.043
755	SD of Detected					29770	SD of Detected					3.583
756	Minimum Non-Detect					0.34	Minimum Non-Detect					-1.079
757	Maximum Non-Detect					0.4	Maximum Non-Detect					-0.916
758												
759	Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect					90
760	For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected					42
761	Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage					68.18%
762												
763	<b>UCL Statistics</b>											
764	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>					
765	Shapiro Wilk Test Statistic					0.256	Shapiro Wilk Test Statistic					0.812
766	5% Shapiro Wilk Critical Value					0.942	5% Shapiro Wilk Critical Value					0.942
767	<b>Data not Normal at 5% Significance Level</b>						<b>Data not Lognormal at 5% Significance Level</b>					
768												
769	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>					
770	DL/2 Substitution Method						DL/2 Substitution Method					
771	Mean					2174	Mean					-0.213
772	SD					16958	SD					3.001
773	95% DL/2 (t) UCL					4619	95% H-Stat (DL/2) UCL					238.7
774												
775	Maximum Likelihood Estimate(MLE) Method					N/A	Log ROS Method					
776	<b>MLE yields a negative mean</b>						Mean in Log Scale					-4.974
777							SD in Log Scale					7.042
778							Mean in Original Scale					2174
779							SD in Original Scale					16958
780							95% t UCL					4619

	A	B	C	D	E	F	G	H	I	J	K	L	
781											95% Percentile Bootstrap UCL	5061	
782											95% BCA Bootstrap UCL	6827	
783											95% H-UCL	1.899E+11	
784													
785	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>						
786						k star (bias corrected)	0.141	<b>Data do not follow a Discernable Distribution (0.05)</b>					
787						Theta Star	48426						
788						nu star	11.85						
789													
790						A-D Test Statistic	5.884	<b>Nonparametric Statistics</b>					
791						5% A-D Critical Value	0.944	Kaplan-Meier (KM) Method					
792						K-S Test Statistic	0.944	Mean					
793						5% K-S Critical Value	0.153	SD					
794	<b>Data not Gamma Distributed at 5% Significance Level</b>								SE of Mean				
795								95% KM (t) UCL					
796	<b>Assuming Gamma Distribution</b>								95% KM (z) UCL				
797	Gamma ROS Statistics using Extrapolated Data								95% KM (jackknife) UCL				
798						Minimum	0.000001	95% KM (bootstrap t) UCL					
799						Maximum	190000	95% KM (BCA) UCL					
800						Mean	2174	95% KM (Percentile Bootstrap) UCL					
801						Median	0.000001	95% KM (Chebyshev) UCL					
802						SD	16958	97.5% KM (Chebyshev) UCL					
803						k star	0.0577	99% KM (Chebyshev) UCL					
804						Theta star	37684						
805						Nu star	15.23	<b>Potential UCLs to Use</b>					
806						AppChi2	7.422	97.5% KM (Chebyshev) UCL					
807	95% Gamma Approximate UCL (Use when n >= 40)						4461						
808	95% Adjusted Gamma UCL (Use when n < 40)						4498						
809	<b>Note: DL/2 is not a recommended method.</b>												
810													
811	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>												
812	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>												
813	<b>For additional insight, the user may want to consult a statistician.</b>												
814													
815													
816	<b>Benzo(a)anthracene</b>												
817													
818	<b>General Statistics</b>												
819						Number of Valid Data	78				Number of Detected Data	1	
820						Number of Distinct Detected Data	1				Number of Non-Detect Data	77	
821											Percent Non-Detects	98.72%	
822													
823	<b>Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!</b>												
824	<b>It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).</b>												
825													
826	<b>The data set for variable Benzo(a)anthracene was not processed!</b>												
827													
828													
829													
830	<b>Benzo(a)pyrene</b>												
831													
832	<b>General Statistics</b>												

	A	B	C	D	E	F	G	H	I	J	K	L
833	Number of Valid Data					78	Number of Detected Data					1
834	Number of Distinct Detected Data					1	Number of Non-Detect Data					77
835							Percent Non-Detects					98.72%
836												
837	<b>Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!</b>											
838	<b>It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).</b>											
839												
840	<b>The data set for variable Benzo(a)pyrene was not processed!</b>											
841												
842												
843												
844	<b>Benzo(b)fluoranthene</b>											
845												
846	<b>General Statistics</b>											
847	Number of Valid Data					78	Number of Detected Data					1
848	Number of Distinct Detected Data					1	Number of Non-Detect Data					77
849							Percent Non-Detects					98.72%
850												
851	<b>Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!</b>											
852	<b>It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).</b>											
853												
854	<b>The data set for variable Benzo(b)fluoranthene was not processed!</b>											
855												
856												
857												
858	<b>Beryllium</b>											
859												
860	<b>General Statistics</b>											
861	Number of Valid Data					78	Number of Detected Data					0
862	Number of Distinct Detected Data					0	Number of Non-Detect Data					78
863							Percent Non-Detects					100.00%
864												
865	<b>Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!</b>											
866	<b>Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!</b>											
867	<b>The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).</b>											
868												
869	<b>The data set for variable Beryllium was not processed!</b>											
870												
871												
872												
873	<b>Bis(2-ethylhexyl) phthalate</b>											
874												
875	<b>General Statistics</b>											
876	Number of Valid Data					78	Number of Detected Data					3
877	Number of Distinct Detected Data					3	Number of Non-Detect Data					75
878							Percent Non-Detects					96.15%
879												
880	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>					
881	Minimum Detected					3.2	Minimum Detected					1.163
882	Maximum Detected					10	Maximum Detected					2.303
883	Mean of Detected					5.567	Mean of Detected					1.573
884	SD of Detected					3.842	SD of Detected					0.634

	A	B	C	D	E	F	G	H	I	J	K	L
885	Minimum Non-Detect					2	Minimum Non-Detect					0.693
886	Maximum Non-Detect					40	Maximum Non-Detect					3.689
887												
888	Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect					78
889	For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected					0
890	Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage					100.00%
891												
892	<b>Warning: There are only 3 Distinct Detected Values in this data set</b>											
893	<b>The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.</b>											
894	<b>Those methods will return a 'N/A' value on your output display!</b>											
895												
896	<b>It is necessary to have 4 or more Distinct Values for bootstrap methods.</b>											
897	<b>However, results obtained using 4 to 9 distinct values may not be reliable.</b>											
898	<b>It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.</b>											
899												
900												
901	<b>UCL Statistics</b>											
902	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>					
903	Shapiro Wilk Test Statistic					0.783	Shapiro Wilk Test Statistic					0.809
904	5% Shapiro Wilk Critical Value					0.767	5% Shapiro Wilk Critical Value					0.767
905	<b>Data appear Normal at 5% Significance Level</b>						<b>Data appear Lognormal at 5% Significance Level</b>					
906												
907	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>					
908	DL/2 Substitution Method						DL/2 Substitution Method					
909	Mean					1.781	Mean					0.216
910	SD					2.822	SD					0.624
911	95% DL/2 (t) UCL					2.313	95% H-Stat (DL/2) UCL					1.73
912												
913	Maximum Likelihood Estimate(MLE) Method					N/A	Log ROS Method					
914	<b>MLE method failed to converge properly</b>						Mean in Log Scale					-2.52
915							SD in Log Scale					1.782
916							Mean in Original Scale					0.404
917							SD in Original Scale					1.247
918							95% t UCL					0.64
919							95% Percentile Bootstrap UCL					0.659
920							95% BCA Bootstrap UCL					0.799
921							95% H-UCL					0.746
922												
923	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>					
924	k star (bias corrected)					N/A	<b>Data appear Normal at 5% Significance Level</b>					
925	Theta Star					N/A						
926	nu star					N/A						
927												
928	A-D Test Statistic					N/A	<b>Nonparametric Statistics</b>					
929	5% A-D Critical Value					N/A	Kaplan-Meier (KM) Method					
930	K-S Test Statistic					N/A	Mean					3.296
931	5% K-S Critical Value					N/A	SD					0.785
932	<b>Data not Gamma Distributed at 5% Significance Level</b>						SE of Mean					0.112
933							95% KM (t) UCL					3.482
934	<b>Assuming Gamma Distribution</b>						95% KM (z) UCL					3.48
935	Gamma ROS Statistics using Extrapolated Data						95% KM (jackknife) UCL					3.513
936	Minimum					N/A	95% KM (bootstrap t) UCL					4.85

	A	B	C	D	E	F	G	H	I	J	K	L
937					Maximum	N/A				95% KM (BCA) UCL		N/A
938					Mean	N/A				95% KM (Percentile Bootstrap) UCL		10
939					Median	N/A				95% KM (Chebyshev) UCL		3.783
940					SD	N/A				97.5% KM (Chebyshev) UCL		3.994
941					k star	N/A				99% KM (Chebyshev) UCL		4.409
942					Theta star	N/A						
943					Nu star	N/A				<b>Potential UCLs to Use</b>		
944					AppChi2	N/A				95% KM (t) UCL		3.482
945					95% Gamma Approximate UCL (Use when n >= 40)	N/A				95% KM (Percentile Bootstrap) UCL		10
946					95% Adjusted Gamma UCL (Use when n < 40)	N/A						
947	<b>Note: DL/2 is not a recommended method.</b>											
948												
949	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>											
950	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>											
951	<b>For additional insight, the user may want to consult a statistician.</b>											
952												
953												
954	<b>Cadmium</b>											
955												
956	<b>General Statistics</b>											
957					Number of Valid Data	78				Number of Detected Data		3
958					Number of Distinct Detected Data	3				Number of Non-Detect Data		75
959										Percent Non-Detects		96.15%
960												
961	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>					
962					Minimum Detected	1				Minimum Detected		0
963					Maximum Detected	2.1				Maximum Detected		0.742
964					Mean of Detected	1.5				Mean of Detected		0.359
965					SD of Detected	0.557				SD of Detected		0.372
966					Minimum Non-Detect	1				Minimum Non-Detect		0
967					Maximum Non-Detect	1				Maximum Non-Detect		0
968												
969												
970	<b>Warning: There are only 3 Distinct Detected Values in this data set</b>											
971	<b>The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.</b>											
972	<b>Those methods will return a 'N/A' value on your output display!</b>											
973												
974	<b>It is necessary to have 4 or more Distinct Values for bootstrap methods.</b>											
975	<b>However, results obtained using 4 to 9 distinct values may not be reliable.</b>											
976	<b>It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.</b>											
977												
978												
979	<b>UCL Statistics</b>											
980	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>					
981					Shapiro Wilk Test Statistic	0.976				Shapiro Wilk Test Statistic		0.997
982					5% Shapiro Wilk Critical Value	0.767				5% Shapiro Wilk Critical Value		0.767
983	<b>Data appear Normal at 5% Significance Level</b>						<b>Data appear Lognormal at 5% Significance Level</b>					
984												
985	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>					
986					DL/2 Substitution Method					DL/2 Substitution Method		
987					Mean	0.538				Mean		-0.653
988					SD	0.213				SD		0.212

	A	B	C	D	E	F	G	H	I	J	K	L	
989	95% DL/2 (t) UCL					0.579	95% H-Stat (DL/2) UCL					0.555	
990													
991	Maximum Likelihood Estimate(MLE) Method					N/A		Log ROS Method					
992	<b>MLE yields a negative mean</b>							Mean in Log Scale					-3.123
993								SD in Log Scale					1.604
994								Mean in Original Scale					0.148
995								SD in Original Scale					0.314
996								95% t UCL					0.207
997								95% Percentile Bootstrap UCL					0.212
998								95% BCA Bootstrap UCL					0.237
999								95% H-UCL					0.273
1000													
1001	<b>Gamma Distribution Test with Detected Values Only</b>							<b>Data Distribution Test with Detected Values Only</b>					
1002	k star (bias corrected)					N/A		<b>Data appear Normal at 5% Significance Level</b>					
1003	Theta Star					N/A							
1004	nu star					N/A							
1005													
1006	A-D Test Statistic					N/A		<b>Nonparametric Statistics</b>					
1007	5% A-D Critical Value					N/A		Kaplan-Meier (KM) Method					
1008	K-S Test Statistic					N/A		Mean					1.019
1009	5% K-S Critical Value					N/A		SD					0.131
1010	<b>Data not Gamma Distributed at 5% Significance Level</b>							SE of Mean					0.0182
1011								95% KM (t) UCL					1.05
1012	<b>Assuming Gamma Distribution</b>							95% KM (z) UCL					1.049
1013	Gamma ROS Statistics using Extrapolated Data							95% KM (jackknife) UCL					N/A
1014	Minimum					N/A		95% KM (bootstrap t) UCL					N/A
1015	Maximum					N/A		95% KM (BCA) UCL					N/A
1016	Mean					N/A		95% KM (Percentile Bootstrap) UCL					N/A
1017	Median					N/A		95% KM (Chebyshev) UCL					1.098
1018	SD					N/A		97.5% KM (Chebyshev) UCL					1.133
1019	k star					N/A		99% KM (Chebyshev) UCL					1.2
1020	Theta star					N/A							
1021	Nu star					N/A		<b>Potential UCLs to Use</b>					
1022	AppChi2					N/A		95% KM (t) UCL					1.05
1023	95% Gamma Approximate UCL (Use when n >= 40)					N/A		95% KM (Percentile Bootstrap) UCL					N/A
1024	95% Adjusted Gamma UCL (Use when n < 40)					N/A							
1025	<b>Note: DL/2 is not a recommended method.</b>												
1026													
1027	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>												
1028	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>												
1029	<b>For additional insight, the user may want to consult a statistician.</b>												
1030													
1031													
1032	<b>Carbon disulfide</b>												
1033													
1034	<b>General Statistics</b>												
1035	Number of Valid Data					78		Number of Detected Data					0
1036	Number of Distinct Detected Data					0		Number of Non-Detect Data					78
1037								Percent Non-Detects					100.00%
1038													
1039	<b>Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!</b>												
1040	<b>Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!</b>												

	A	B	C	D	E	F	G	H	I	J	K	L		
1041	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).													
1042														
1043	The data set for variable Carbon disulfide was not processed!													
1044														
1045														
1046														
1047	Chlorobenzene													
1048														
1049	General Statistics													
1050	Number of Valid Data					78		Number of Detected Data					9	
1051	Number of Distinct Detected Data					9		Number of Non-Detect Data					69	
1052											Percent Non-Detects		88.46%	
1053														
1054	Raw Statistics						Log-transformed Statistics							
1055	Minimum Detected			1.5			Minimum Detected			0.405				
1056	Maximum Detected			18			Maximum Detected			2.89				
1057	Mean of Detected			7.867			Mean of Detected			1.743				
1058	SD of Detected			6.277			SD of Detected			0.884				
1059	Minimum Non-Detect			0.5			Minimum Non-Detect			-0.693				
1060	Maximum Non-Detect			1300			Maximum Non-Detect			7.17				
1061														
1062	Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect						78	
1063	For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected						0	
1064	Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage						100.00%	
1065														
1066	Warning: There are only 9 Detected Values in this data													
1067	Note: It should be noted that even though bootstrap may be performed on this data set													
1068	the resulting calculations may not be reliable enough to draw conclusions													
1069														
1070	It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.													
1071														
1072														
1073	UCL Statistics													
1074	Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only							
1075	Shapiro Wilk Test Statistic			0.86			Shapiro Wilk Test Statistic			0.948				
1076	5% Shapiro Wilk Critical Value			0.829			5% Shapiro Wilk Critical Value			0.829				
1077	Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level							
1078														
1079	Assuming Normal Distribution						Assuming Lognormal Distribution							
1080	DL/2 Substitution Method						DL/2 Substitution Method							
1081	Mean			11.23			Mean			-0.558				
1082	SD			73.79			SD			1.676				
1083	95% DL/2 (t) UCL			25.14			95% H-Stat (DL/2) UCL			4.152				
1084														
1085	Maximum Likelihood Estimate(MLE) Method						Log ROS Method							
1086	MLE method failed to converge properly						Mean in Log Scale						-1.824	
1087							SD in Log Scale						2.042	
1088							Mean in Original Scale						1.15	
1089							SD in Original Scale						3.19	
1090							95% t UCL						1.752	
1091							95% Percentile Bootstrap UCL						1.735	
1092							95% BCA Bootstrap UCL						1.979	

	A	B	C	D	E	F	G	H	I	J	K	L	
1093											95% H-UCL	2.924	
1094													
1095	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>						
1096					k star (bias corrected)	1.217	<b>Data appear Normal at 5% Significance Level</b>						
1097					Theta Star	6.464							
1098					nu star	21.91							
1099													
1100					A-D Test Statistic	0.289	<b>Nonparametric Statistics</b>						
1101					5% A-D Critical Value	0.732	Kaplan-Meier (KM) Method						
1102					K-S Test Statistic	0.732	Mean						
1103					5% K-S Critical Value	0.283	SD						
1104	<b>Data appear Gamma Distributed at 5% Significance Level</b>						SE of Mean						
1105							95% KM (t) UCL						
1106	<b>Assuming Gamma Distribution</b>						95% KM (z) UCL						
1107	Gamma ROS Statistics using Extrapolated Data						95% KM (jackknife) UCL						
1108					Minimum	0.000001	95% KM (bootstrap t) UCL						
1109					Maximum	18	95% KM (BCA) UCL						
1110					Mean	0.908	95% KM (Percentile Bootstrap) UCL						
1111					Median	0.000001	95% KM (Chebyshev) UCL						
1112					SD	3.239	97.5% KM (Chebyshev) UCL						
1113					k star	0.0767	99% KM (Chebyshev) UCL						
1114					Theta star	11.83							
1115					Nu star	11.97	<b>Potential UCLs to Use</b>						
1116					AppChi2	5.207	95% KM (t) UCL						
1117	95% Gamma Approximate UCL (Use when n >= 40)						2.087	95% KM (Percentile Bootstrap) UCL					
1118	95% Adjusted Gamma UCL (Use when n < 40)						2.121						
1119	<b>Note: DL/2 is not a recommended method.</b>												
1120													
1121	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>												
1122	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>												
1123	<b>For additional insight, the user may want to consult a statistician.</b>												
1124													
1125													
1126	<b>Chloroform</b>												
1127													
1128	<b>General Statistics</b>												
1129	Number of Valid Data						78	Number of Detected Data					
1130	Number of Distinct Detected Data						1	Number of Non-Detect Data					
1131								Percent Non-Detects					
1132													
1133	<b>Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!</b>												
1134	<b>It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).</b>												
1135													
1136	<b>The data set for variable Chloroform was not processed!</b>												
1137													
1138													
1139													
1140	<b>Chromium</b>												
1141													
1142	<b>General Statistics</b>												
1143	Number of Valid Data						78	Number of Detected Data					
1144	Number of Distinct Detected Data						17	Number of Non-Detect Data					

	A	B	C	D	E	F	G	H	I	J	K	L
1145							Percent Non-Detects					78.21%
1146												
1147	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>					
1148	Minimum Detected				2.1		Minimum Detected				0.742	
1149	Maximum Detected				1800		Maximum Detected				7.496	
1150	Mean of Detected				154		Mean of Detected				2.536	
1151	SD of Detected				450.8		SD of Detected				1.932	
1152	Minimum Non-Detect				2		Minimum Non-Detect				0.693	
1153	Maximum Non-Detect				10		Maximum Non-Detect				2.303	
1154												
1155	Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect				70	
1156	For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected				8	
1157	Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage				89.74%	
1158												
1159	<b>UCL Statistics</b>											
1160	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>					
1161	Shapiro Wilk Test Statistic				0.389		Shapiro Wilk Test Statistic				0.813	
1162	5% Shapiro Wilk Critical Value				0.892		5% Shapiro Wilk Critical Value				0.892	
1163	<b>Data not Normal at 5% Significance Level</b>						<b>Data not Lognormal at 5% Significance Level</b>					
1164												
1165	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>					
1166	DL/2 Substitution Method						DL/2 Substitution Method					
1167	Mean				34.39		Mean				0.573	
1168	SD				215.1		SD				1.377	
1169	95% DL/2 (t) UCL				74.94		95% H-Stat (DL/2) UCL				6.958	
1170												
1171	Maximum Likelihood Estimate(MLE) Method						Log ROS Method					
1172	<b>MLE yields a negative mean</b>						Mean in Log Scale				-3.205	
1173							SD in Log Scale				4.191	
1174							Mean in Original Scale				33.64	
1175							SD in Original Scale				215.2	
1176							95% t UCL				74.21	
1177							95% Percentile Bootstrap UCL				79.34	
1178							95% BCA Bootstrap UCL				117.3	
1179							95% H-UCL				5852	
1180												
1181	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>					
1182	k star (bias corrected)				0.269		<b>Data do not follow a Discernable Distribution (0.05)</b>					
1183	Theta Star				572.5							
1184	nu star				9.145							
1185												
1186	A-D Test Statistic				2.789		<b>Nonparametric Statistics</b>					
1187	5% A-D Critical Value				0.85		Kaplan-Meier (KM) Method					
1188	K-S Test Statistic				0.85		Mean				35.21	
1189	5% K-S Critical Value				0.228		SD				213.6	
1190	<b>Data not Gamma Distributed at 5% Significance Level</b>						SE of Mean				24.93	
1191							95% KM (t) UCL				76.71	
1192	<b>Assuming Gamma Distribution</b>						95% KM (z) UCL				76.21	
1193	Gamma ROS Statistics using Extrapolated Data						95% KM (jackknife) UCL				75.58	
1194	Minimum				0.000001		95% KM (bootstrap t) UCL				999.8	
1195	Maximum				1800		95% KM (BCA) UCL				80.18	
1196	Mean				33.56		95% KM (Percentile Bootstrap) UCL				80.42	

	A	B	C	D	E	F	G	H	I	J	K	L	
1197					Median	0.000001				95% KM (Chebyshev) UCL		143.9	
1198					SD	215.2				97.5% KM (Chebyshev) UCL		190.9	
1199					k star	0.0684				99% KM (Chebyshev) UCL		283.2	
1200					Theta star	490.6							
1201					Nu star	10.67				<b>Potential UCLs to Use</b>			
1202					AppChi2	4.366				95% KM (Chebyshev) UCL		143.9	
1203					95% Gamma Approximate UCL (Use when n >= 40)		82.04						
1204					95% Adjusted Gamma UCL (Use when n < 40)		83.49						
1205	<b>Note: DL/2 is not a recommended method.</b>												
1206													
1207	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>												
1208	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>												
1209	<b>For additional insight, the user may want to consult a statistician.</b>												
1210													
1211													
1212	<b>Chromium, hexavalent</b>												
1213													
1214	<b>General Statistics</b>												
1215					Number of Valid Data	78				Number of Detected Data		17	
1216					Number of Distinct Detected Data	14				Number of Non-Detect Data		61	
1217										Percent Non-Detects		78.21%	
1218													
1219	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>						
1220					Minimum Detected	6.5				Minimum Detected		1.872	
1221					Maximum Detected	24				Maximum Detected		3.178	
1222					Mean of Detected	11.16				Mean of Detected		2.347	
1223					SD of Detected	4.546				SD of Detected		0.36	
1224					Minimum Non-Detect	6.5				Minimum Non-Detect		1.872	
1225					Maximum Non-Detect	6.5				Maximum Non-Detect		1.872	
1226													
1227													
1228	<b>UCL Statistics</b>												
1229	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>						
1230					Shapiro Wilk Test Statistic	0.853				Shapiro Wilk Test Statistic		0.942	
1231					5% Shapiro Wilk Critical Value	0.892				5% Shapiro Wilk Critical Value		0.892	
1232	<b>Data not Normal at 5% Significance Level</b>						<b>Data appear Lognormal at 5% Significance Level</b>						
1233													
1234	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>						
1235					DL/2 Substitution Method					DL/2 Substitution Method			
1236					Mean	4.975				Mean		1.433	
1237					SD	3.887				SD		0.513	
1238					95% DL/2 (t) UCL	5.708				95% H-Stat (DL/2) UCL		5.332	
1239													
1240					Maximum Likelihood Estimate(MLE) Method	N/A				Log ROS Method			
1241	<b>MLE yields a negative mean</b>										Mean in Log Scale		1.201
1242										SD in Log Scale		0.839	
1243										Mean in Original Scale		4.673	
1244										SD in Original Scale		4.252	
1245										95% t UCL		5.474	
1246										95% Percentile Bootstrap UCL		5.515	
1247										95% BCA Bootstrap UCL		5.649	
1248										95% H-UCL		5.783	

	A	B	C	D	E	F	G	H	I	J	K	L
1249												
1250	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>					
1251	k star (bias corrected)					6.454	<b>Data appear Gamma Distributed at 5% Significance Level</b>					
1252	Theta Star					1.73						
1253	nu star					219.4						
1254												
1255	A-D Test Statistic					0.467	<b>Nonparametric Statistics</b>					
1256	5% A-D Critical Value					0.74	Kaplan-Meier (KM) Method					
1257	K-S Test Statistic					0.74	Mean					7.517
1258	5% K-S Critical Value					0.209	SD					2.819
1259	<b>Data appear Gamma Distributed at 5% Significance Level</b>						SE of Mean					0.329
1260							95% KM (t) UCL					8.064
1261	<b>Assuming Gamma Distribution</b>						95% KM (z) UCL					8.058
1262	Gamma ROS Statistics using Extrapolated Data						95% KM (jackknife) UCL					7.966
1263	Minimum					0.000001	95% KM (bootstrap t) UCL					8.144
1264	Maximum					24	95% KM (BCA) UCL					8.801
1265	Mean					2.504	95% KM (Percentile Bootstrap) UCL					8.496
1266	Median					0.000001	95% KM (Chebyshev) UCL					8.951
1267	SD					5.061	97.5% KM (Chebyshev) UCL					9.571
1268	k star					0.084	99% KM (Chebyshev) UCL					10.79
1269	Theta star					29.83						
1270	Nu star					13.1	<b>Potential UCLs to Use</b>					
1271	AppChi2					5.958	95% KM (t) UCL					8.064
1272	95% Gamma Approximate UCL (Use when n >= 40)					5.504						
1273	95% Adjusted Gamma UCL (Use when n < 40)					5.59						
1274	<b>Note: DL/2 is not a recommended method.</b>											
1275												
1276	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>											
1277	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>											
1278	<b>For additional insight, the user may want to consult a statistician.</b>											
1279												
1280												
1281	<b>Chrysene</b>											
1282												
1283	<b>General Statistics</b>											
1284	Number of Valid Data					78	Number of Detected Data					1
1285	Number of Distinct Detected Data					1	Number of Non-Detect Data					77
1286							Percent Non-Detects					98.72%
1287												
1288	<b>Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!</b>											
1289	<b>It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).</b>											
1290												
1291	<b>The data set for variable Chrysene was not processed!</b>											
1292												
1293												
1294												
1295	<b>Cobalt</b>											
1296												
1297	<b>General Statistics</b>											
1298	Number of Valid Data					78	Number of Detected Data					11
1299	Number of Distinct Detected Data					11	Number of Non-Detect Data					67
1300							Percent Non-Detects					85.90%

	A	B	C	D	E	F	G	H	I	J	K	L
1301												
1302	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>					
1303	Minimum Detected				3.7		Minimum Detected				1.308	
1304	Maximum Detected				19		Maximum Detected				2.944	
1305	Mean of Detected				8.091		Mean of Detected				1.932	
1306	SD of Detected				5.054		SD of Detected				0.576	
1307	Minimum Non-Detect				3		Minimum Non-Detect				1.099	
1308	Maximum Non-Detect				15		Maximum Non-Detect				2.708	
1309												
1310	Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect				77	
1311	For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected				1	
1312	Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage				98.72%	
1313												
1314	<b>UCL Statistics</b>											
1315	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>					
1316	Shapiro Wilk Test Statistic				0.843		Shapiro Wilk Test Statistic				0.903	
1317	5% Shapiro Wilk Critical Value				0.85		5% Shapiro Wilk Critical Value				0.85	
1318	<b>Data not Normal at 5% Significance Level</b>						<b>Data appear Lognormal at 5% Significance Level</b>					
1319												
1320	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>					
1321	DL/2 Substitution Method						DL/2 Substitution Method					
1322	Mean				2.583		Mean				0.662	
1323	SD				3.044		SD				0.614	
1324	95% DL/2 (t) UCL				3.157		95% H-Stat (DL/2) UCL				2.679	
1325												
1326	Maximum Likelihood Estimate(MLE) Method						Log ROS Method					
1327	<b>MLE method failed to converge properly</b>						Mean in Log Scale				-0.183	
1328							SD in Log Scale				1.315	
1329							Mean in Original Scale				1.933	
1330							SD in Original Scale				3.192	
1331							95% t UCL				2.534	
1332							95% Percentile Bootstrap UCL				2.56	
1333							95% BCA Bootstrap UCL				2.783	
1334							95% H-UCL				2.918	
1335												
1336	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>					
1337	k star (bias corrected)				2.467		<b>Data appear Gamma Distributed at 5% Significance Level</b>					
1338	Theta Star				3.28							
1339	nu star				54.27							
1340												
1341	A-D Test Statistic				0.543		<b>Nonparametric Statistics</b>					
1342	5% A-D Critical Value				0.733		Kaplan-Meier (KM) Method					
1343	K-S Test Statistic				0.733		Mean				4.331	
1344	5% K-S Critical Value				0.257		SD				2.382	
1345	<b>Data appear Gamma Distributed at 5% Significance Level</b>						SE of Mean				0.285	
1346							95% KM (t) UCL				4.805	
1347	<b>Assuming Gamma Distribution</b>						95% KM (z) UCL				4.799	
1348	Gamma ROS Statistics using Extrapolated Data						95% KM (jackknife) UCL				4.704	
1349	Minimum				0.000001		95% KM (bootstrap t) UCL				5.059	
1350	Maximum				19		95% KM (BCA) UCL				5.305	
1351	Mean				1.141		95% KM (Percentile Bootstrap) UCL				5.034	
1352	Median				0.000001		95% KM (Chebyshev) UCL				5.572	



	A	B	C	D	E	F	G	H	I	J	K	L
1405	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>					
1406	k star (bias corrected)					0.917	<b>Data do not follow a Discernable Distribution (0.05)</b>					
1407	Theta Star					11.31						
1408	nu star					64.17						
1409												
1410	A-D Test Statistic					2.383	<b>Nonparametric Statistics</b>					
1411	5% A-D Critical Value					0.777	Kaplan-Meier (KM) Method					
1412	K-S Test Statistic					0.777	Mean					5.756
1413	5% K-S Critical Value					0.153	SD					11.26
1414	<b>Data not Gamma Distributed at 5% Significance Level</b>						SE of Mean					1.294
1415							95% KM (t) UCL					7.91
1416	<b>Assuming Gamma Distribution</b>						95% KM (z) UCL					7.884
1417	Gamma ROS Statistics using Extrapolated Data						95% KM (jackknife) UCL					7.893
1418	Minimum					0.000001	95% KM (bootstrap t) UCL					10.11
1419	Maximum					86	95% KM (BCA) UCL					8.127
1420	Mean					4.654	95% KM (Percentile Bootstrap) UCL					8.112
1421	Median					0.000001	95% KM (Chebyshev) UCL					11.4
1422	SD					11.74	97.5% KM (Chebyshev) UCL					13.84
1423	k star					0.102	99% KM (Chebyshev) UCL					18.63
1424	Theta star					45.55						
1425	Nu star					15.94	<b>Potential UCLs to Use</b>					
1426	AppChi2					7.919	95% KM (t) UCL					7.91
1427	95% Gamma Approximate UCL (Use when n >= 40)					9.367	95% KM (% Bootstrap) UCL					8.112
1428	95% Adjusted Gamma UCL (Use when n < 40)					9.495						
1429	<b>Note: DL/2 is not a recommended method.</b>											
1430												
1431	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>											
1432	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>											
1433	<b>For additional insight, the user may want to consult a statistician.</b>											
1434												
1435												
1436	<b>Cyanide, Total</b>											
1437												
1438	<b>General Statistics</b>											
1439	Number of Valid Data					78	Number of Detected Data					1
1440	Number of Distinct Detected Data					1	Number of Non-Detect Data					77
1441							Percent Non-Detects					98.72%
1442												
1443	<b>Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!</b>											
1444	<b>It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).</b>											
1445												
1446	<b>The data set for variable Cyanide, Total was not processed!</b>											
1447												
1448												
1449												
1450	<b>Ethylbenzene</b>											
1451												
1452	<b>General Statistics</b>											
1453	Number of Valid Data					132	Number of Detected Data					28
1454	Number of Distinct Detected Data					25	Number of Non-Detect Data					104
1455							Percent Non-Detects					78.79%
1456												

	A	B	C	D	E	F	G	H	I	J	K	L	
1457	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>						
1458	Minimum Detected					0.56	Minimum Detected					-0.58	
1459	Maximum Detected					14000	Maximum Detected					9.547	
1460	Mean of Detected					831.2	Mean of Detected					3.37	
1461	SD of Detected					2666	SD of Detected					3.025	
1462	Minimum Non-Detect					0.5	Minimum Non-Detect					-0.693	
1463	Maximum Non-Detect					1300	Maximum Non-Detect					7.17	
1464													
1465	Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect					127	
1466	For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected					5	
1467	Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage					96.21%	
1468													
1469	<b>UCL Statistics</b>												
1470	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>						
1471	Shapiro Wilk Test Statistic					0.341	Shapiro Wilk Test Statistic					0.92	
1472	5% Shapiro Wilk Critical Value					0.924	5% Shapiro Wilk Critical Value					0.924	
1473	<b>Data not Normal at 5% Significance Level</b>						<b>Data not Lognormal at 5% Significance Level</b>						
1474													
1475	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>						
1476	DL/2 Substitution Method						DL/2 Substitution Method						
1477	Mean					181.4	Mean					-0.304	
1478	SD					1258	SD					2.453	
1479	95% DL/2 (t) UCL					362.9	95% H-Stat (DL/2) UCL					33.87	
1480													
1481	Maximum Likelihood Estimate(MLE) Method						N/A	Log ROS Method					
1482	<b>MLE yields a negative mean</b>						Mean in Log Scale					-5.438	
1483							SD in Log Scale					6.341	
1484							Mean in Original Scale					176.4	
1485							SD in Original Scale					1258	
1486							95% t UCL					357.7	
1487							95% Percentile Bootstrap UCL					392.4	
1488							95% BCA Bootstrap UCL					531.8	
1489							95% H-UCL					350300000	
1490													
1491	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>						
1492	k star (bias corrected)					0.217	<b>Data do not follow a Discernable Distribution (0.05)</b>						
1493	Theta Star					3825							
1494	nu star					12.17							
1495													
1496	A-D Test Statistic					1.707	<b>Nonparametric Statistics</b>						
1497	5% A-D Critical Value					0.89	Kaplan-Meier (KM) Method						
1498	K-S Test Statistic					0.89	Mean					176.9	
1499	5% K-S Critical Value					0.183	SD					1253	
1500	<b>Data not Gamma Distributed at 5% Significance Level</b>						SE of Mean					111	
1501							95% KM (t) UCL					360.8	
1502	<b>Assuming Gamma Distribution</b>						95% KM (z) UCL					359.5	
1503	Gamma ROS Statistics using Extrapolated Data						95% KM (jackknife) UCL					358.1	
1504	Minimum					0.000001	95% KM (bootstrap t) UCL					897.4	
1505	Maximum					14000	95% KM (BCA) UCL					391	
1506	Mean					176.3	95% KM (Percentile Bootstrap) UCL					382.1	
1507	Median					0.000001	95% KM (Chebyshev) UCL					660.9	
1508	SD					1258	97.5% KM (Chebyshev) UCL					870.4	

	A	B	C	D	E	F	G	H	I	J	K	L
1509					k star	0.0602	99% KM (Chebyshev) UCL				1282	
1510					Theta star	2930						
1511					Nu star	15.89	<b>Potential UCLs to Use</b>					
1512					AppChi2	7.881	97.5% KM (Chebyshev) UCL				870.4	
1513	95% Gamma Approximate UCL (Use when n >= 40)					355.4						
1514	95% Adjusted Gamma UCL (Use when n < 40)					358.2						
1515	<b>Note: DL/2 is not a recommended method.</b>											
1516												
1517	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>											
1518	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>											
1519	<b>For additional insight, the user may want to consult a statistician.</b>											
1520												
1521												
1522	<b>Fluoranthene</b>											
1523												
1524	<b>General Statistics</b>											
1525	Number of Valid Data					78	Number of Detected Data					2
1526	Number of Distinct Detected Data					2	Number of Non-Detect Data					76
1527							Percent Non-Detects					97.44%
1528												
1529	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>					
1530	Minimum Detected					0.52	Minimum Detected					-0.654
1531	Maximum Detected					0.84	Maximum Detected					-0.174
1532	Mean of Detected					0.68	Mean of Detected					-0.414
1533	SD of Detected					0.226	SD of Detected					0.339
1534	Minimum Non-Detect					0.18	Minimum Non-Detect					-1.715
1535	Maximum Non-Detect					3.6	Maximum Non-Detect					1.281
1536												
1537	Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect					78
1538	For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected					0
1539	Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage					100.00%
1540												
1541	<b>Warning: Data set has only 2 Distinct Detected Values.</b>											
1542	<b>This may not be adequate enough to compute meaningful and reliable test statistics and estimates.</b>											
1543	<b>The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).</b>											
1544												
1545	<b>Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.</b>											
1546												
1547	<b>The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.</b>											
1548	<b>Those methods will return a 'N/A' value on your output display!</b>											
1549												
1550	<b>It is necessary to have 4 or more Distinct Values for bootstrap methods.</b>											
1551	<b>However, results obtained using 4 to 9 distinct values may not be reliable.</b>											
1552	<b>It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.</b>											
1553												
1554												
1555	<b>UCL Statistics</b>											
1556	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>					
1557	Shapiro Wilk Test Statistic					N/A	Shapiro Wilk Test Statistic					N/A
1558	5% Shapiro Wilk Critical Value					N/A	5% Shapiro Wilk Critical Value					N/A
1559	<b>Data not Normal at 5% Significance Level</b>						<b>Data not Lognormal at 5% Significance Level</b>					
1560												

	A	B	C	D	E	F	G	H	I	J	K	L		
1561	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>							
1562	DL/2 Substitution Method						DL/2 Substitution Method							
1563	Mean						0.159	Mean						-2.201
1564	SD						0.254	SD						0.624
1565	95% DL/2 (t) UCL						0.207	95% H-Stat (DL/2) UCL						0.154
1566														
1567	Maximum Likelihood Estimate(MLE) Method						N/A	Log ROS Method						
1568	<b>MLE method failed to converge properly</b>							Mean in Log Scale						N/A
1569								SD in Log Scale						N/A
1570								Mean in Original Scale						N/A
1571								SD in Original Scale						N/A
1572								95% t UCL						N/A
1573								95% Percentile Bootstrap UCL						N/A
1574								95% BCA Bootstrap UCL						N/A
1575								95% H-UCL						N/A
1576														
1577	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>							
1578	k star (bias corrected)						N/A	<b>Data do not follow a Discernable Distribution (0.05)</b>						
1579	Theta Star						N/A							
1580	nu star						N/A							
1581														
1582	A-D Test Statistic						N/A	<b>Nonparametric Statistics</b>						
1583	5% A-D Critical Value						N/A	Kaplan-Meier (KM) Method						
1584	K-S Test Statistic						N/A	Mean						0.524
1585	5% K-S Critical Value						N/A	SD						0.0372
1586	<b>Data not Gamma Distributed at 5% Significance Level</b>							SE of Mean						0.00616
1587								95% KM (t) UCL						0.535
1588	<b>Assuming Gamma Distribution</b>							95% KM (z) UCL						0.535
1589	Gamma ROS Statistics using Extrapolated Data							95% KM (jackknife) UCL						0.732
1590	Minimum						N/A	95% KM (bootstrap t) UCL						0.525
1591	Maximum						N/A	95% KM (BCA) UCL						0.84
1592	Mean						N/A	95% KM (Percentile Bootstrap) UCL						0.84
1593	Median						N/A	95% KM (Chebyshev) UCL						0.551
1594	SD						N/A	97.5% KM (Chebyshev) UCL						0.563
1595	k star						N/A	99% KM (Chebyshev) UCL						0.586
1596	Theta star						N/A							
1597	Nu star						N/A	<b>Potential UCLs to Use</b>						
1598	AppChi2						N/A	95% KM (t) UCL						0.535
1599	95% Gamma Approximate UCL (Use when n >= 40)						N/A	95% KM (% Bootstrap) UCL						0.84
1600	95% Adjusted Gamma UCL (Use when n < 40)						N/A							
1601	<b>Note: DL/2 is not a recommended method.</b>													
1602														
1603	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>													
1604	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>													
1605	<b>For additional insight, the user may want to consult a statistician.</b>													
1606														
1607														
1608	<b>Fluorene</b>													
1609														
1610	<b>General Statistics</b>													
1611	Number of Valid Data						78	Number of Detected Data						27
1612	Number of Distinct Detected Data						27	Number of Non-Detect Data						51

	A	B	C	D	E	F	G	H	I	J	K	L
1613							Percent Non-Detects					65.38%
1614												
1615	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>					
1616	Minimum Detected				0.23		Minimum Detected				-1.47	
1617	Maximum Detected				83		Maximum Detected				4.419	
1618	Mean of Detected				9.095		Mean of Detected				1.405	
1619	SD of Detected				15.89		SD of Detected				1.355	
1620	Minimum Non-Detect				0.18		Minimum Non-Detect				-1.715	
1621	Maximum Non-Detect				1.9		Maximum Non-Detect				0.642	
1622												
1623	Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect				57	
1624	For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected				21	
1625	Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage				73.08%	
1626												
1627	<b>UCL Statistics</b>											
1628	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>					
1629	Shapiro Wilk Test Statistic				0.496		Shapiro Wilk Test Statistic				0.963	
1630	5% Shapiro Wilk Critical Value				0.923		5% Shapiro Wilk Critical Value				0.923	
1631	<b>Data not Normal at 5% Significance Level</b>						<b>Data appear Lognormal at 5% Significance Level</b>					
1632												
1633	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>					
1634	DL/2 Substitution Method						DL/2 Substitution Method					
1635	Mean				3.239		Mean				-0.978	
1636	SD				10.18		SD				1.964	
1637	95% DL/2 (t) UCL				5.158		95% H-Stat (DL/2) UCL				5.522	
1638												
1639	Maximum Likelihood Estimate(MLE) Method						Log ROS Method					
1640	<b>MLE yields a negative mean</b>						Mean in Log Scale				-1.249	
1641							SD in Log Scale				2.427	
1642							Mean in Original Scale				3.25	
1643							SD in Original Scale				10.18	
1644							95% t UCL				5.168	
1645							95% Percentile Bootstrap UCL				5.356	
1646							95% BCA Bootstrap UCL				6.306	
1647							95% H-UCL				16.48	
1648												
1649	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>					
1650	k star (bias corrected)				0.688		<b>Data appear Gamma Distributed at 5% Significance Level</b>					
1651	Theta Star				13.22							
1652	nu star				37.14							
1653												
1654	A-D Test Statistic				0.619		<b>Nonparametric Statistics</b>					
1655	5% A-D Critical Value				0.784		Kaplan-Meier (KM) Method					
1656	K-S Test Statistic				0.784		Mean				3.3	
1657	5% K-S Critical Value				0.175		SD				10.09	
1658	<b>Data appear Gamma Distributed at 5% Significance Level</b>						SE of Mean				1.165	
1659							95% KM (t) UCL				5.24	
1660	<b>Assuming Gamma Distribution</b>						95% KM (z) UCL				5.216	
1661	Gamma ROS Statistics using Extrapolated Data						95% KM (jackknife) UCL				5.152	
1662	Minimum				0.000001		95% KM (bootstrap t) UCL				7.835	
1663	Maximum				83		95% KM (BCA) UCL				5.74	
1664	Mean				3.148		95% KM (Percentile Bootstrap) UCL				5.382	

	A	B	C	D	E	F	G	H	I	J	K	L
1665					Median	0.000001					95% KM (Chebyshev) UCL	8.377
1666					SD	10.21					97.5% KM (Chebyshev) UCL	10.57
1667					k star	0.0907					99% KM (Chebyshev) UCL	14.89
1668					Theta star	34.73						
1669					Nu star	14.14				<b>Potential UCLs to Use</b>		
1670					AppChi2	6.67					95% KM (t) UCL	5.24
1671					95% Gamma Approximate UCL (Use when n >= 40)		6.676					
1672					95% Adjusted Gamma UCL (Use when n < 40)		6.775					
1673	<b>Note: DL/2 is not a recommended method.</b>											
1674												
1675	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>											
1676	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>											
1677	<b>For additional insight, the user may want to consult a statistician.</b>											
1678												
1679												
1680	<b>Indeno(1,2,3-cd)pyrene</b>											
1681												
1682					<b>General Statistics</b>							
1683					Number of Valid Data	78					Number of Detected Data	1
1684					Number of Distinct Detected Data	1					Number of Non-Detect Data	77
1685											Percent Non-Detects	98.72%
1686												
1687	<b>Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!</b>											
1688	<b>It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).</b>											
1689												
1690	<b>The data set for variable Indeno(1,2,3-cd)pyrene was not processed!</b>											
1691												
1692												
1693												
1694	<b>Lead</b>											
1695												
1696					<b>General Statistics</b>							
1697					Number of Valid Data	78					Number of Detected Data	28
1698					Number of Distinct Detected Data	17					Number of Non-Detect Data	50
1699											Percent Non-Detects	64.10%
1700												
1701					<b>Raw Statistics</b>				<b>Log-transformed Statistics</b>			
1702					Minimum Detected	2					Minimum Detected	0.693
1703					Maximum Detected	53					Maximum Detected	3.97
1704					Mean of Detected	4.761					Mean of Detected	1.125
1705					SD of Detected	9.575					SD of Detected	0.646
1706					Minimum Non-Detect	2					Minimum Non-Detect	0.693
1707					Maximum Non-Detect	10					Maximum Non-Detect	2.303
1708												
1709	Note: Data have multiple DLs - Use of KM Method is recommended										Number treated as Non-Detect	76
1710	For all methods (except KM, DL/2, and ROS Methods),										Number treated as Detected	2
1711	Observations < Largest ND are treated as NDs										Single DL Non-Detect Percentage	97.44%
1712												
1713					<b>UCL Statistics</b>							
1714					<b>Normal Distribution Test with Detected Values Only</b>				<b>Lognormal Distribution Test with Detected Values Only</b>			
1715					Shapiro Wilk Test Statistic	0.279					Shapiro Wilk Test Statistic	0.558
1716					5% Shapiro Wilk Critical Value	0.924					5% Shapiro Wilk Critical Value	0.924

	A	B	C	D	E	F	G	H	I	J	K	L		
1717	<b>Data not Normal at 5% Significance Level</b>						<b>Data not Lognormal at 5% Significance Level</b>							
1718														
1719	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>							
1720	DL/2 Substitution Method						DL/2 Substitution Method							
1721	Mean						2.453	Mean						0.445
1722	SD						5.964	SD						0.688
1723	95% DL/2 (t) UCL						3.577	95% H-Stat (DL/2) UCL						2.309
1724														
1725	Maximum Likelihood Estimate(MLE) Method						N/A	Log ROS Method						
1726	<b>MLE method failed to converge properly</b>						Mean in Log Scale						0.0718	
1727							SD in Log Scale						1.026	
1728							Mean in Original Scale						2.168	
1729							SD in Original Scale						6.005	
1730							95% t UCL						3.3	
1731							95% Percentile Bootstrap UCL						3.431	
1732							95% BCA Bootstrap UCL						4.319	
1733							95% H-UCL						2.378	
1734														
1735	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>							
1736	k star (bias corrected)						1.176	<b>Data do not follow a Discernable Distribution (0.05)</b>						
1737	Theta Star						4.05							
1738	nu star						65.83							
1739														
1740	A-D Test Statistic						6.113	<b>Nonparametric Statistics</b>						
1741	5% A-D Critical Value						0.767	Kaplan-Meier (KM) Method						
1742	K-S Test Statistic						0.767	Mean						2.997
1743	5% K-S Critical Value						0.169	SD						5.787
1744	<b>Data not Gamma Distributed at 5% Significance Level</b>						SE of Mean						0.667	
1745							95% KM (t) UCL						4.108	
1746	<b>Assuming Gamma Distribution</b>						95% KM (z) UCL						4.095	
1747	Gamma ROS Statistics using Extrapolated Data						95% KM (jackknife) UCL						4.095	
1748	Minimum						0.000001	95% KM (bootstrap t) UCL						12
1749	Maximum						53	95% KM (BCA) UCL						4.41
1750	Mean						1.709	95% KM (Percentile Bootstrap) UCL						4.301
1751	Median						0.000001	95% KM (Chebyshev) UCL						5.906
1752	SD						6.118	97.5% KM (Chebyshev) UCL						7.165
1753	k star						0.0964	99% KM (Chebyshev) UCL						9.637
1754	Theta star						17.73							
1755	Nu star						15.04	<b>Potential UCLs to Use</b>						
1756	AppChi2						7.288	95% KM (t) UCL						4.108
1757	95% Gamma Approximate UCL (Use when n >= 40)						3.526	95% KM (% Bootstrap) UCL						4.301
1758	95% Adjusted Gamma UCL (Use when n < 40)						3.576							
1759	<b>Note: DL/2 is not a recommended method.</b>													
1760														
1761	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>													
1762	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>													
1763	<b>For additional insight, the user may want to consult a statistician.</b>													
1764														
1765														
1766	<b>Manganese</b>													
1767														
1768	<b>General Statistics</b>													

	A	B	C	D	E	F	G	H	I	J	K	L
1769	Number of Valid Observations					78	Number of Distinct Observations					61
1770												
1771	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>					
1772	Minimum				2.3	Minimum of Log Data				0.833		
1773	Maximum				15000	Maximum of Log Data				9.616		
1774	Mean				1604	Mean of log Data				6.462		
1775	Geometric Mean				640.5	SD of log Data				1.696		
1776	Median				830							
1777	SD				2361							
1778	Std. Error of Mean				267.3							
1779	Coefficient of Variation				1.472							
1780	Skewness				3.599							
1781												
1782	<b>Relevant UCL Statistics</b>											
1783	<b>Normal Distribution Test</b>						<b>Lognormal Distribution Test</b>					
1784	Lilliefors Test Statistic				0.249	Lilliefors Test Statistic				0.147		
1785	Lilliefors Critical Value				0.1	Lilliefors Critical Value				0.1		
1786	<b>Data not Normal at 5% Significance Level</b>						<b>Data not Lognormal at 5% Significance Level</b>					
1787												
1788	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>					
1789	95% Student's-t UCL				2049	95% H-UCL				4868		
1790	<b>95% UCLs (Adjusted for Skewness)</b>						95% Chebyshev (MVUE) UCL				5703	
1791	95% Adjusted-CLT UCL (Chen-1995)				2160	97.5% Chebyshev (MVUE) UCL				7051		
1792	95% Modified-t UCL (Johnson-1978)				2068	99% Chebyshev (MVUE) UCL				9700		
1793												
1794	<b>Gamma Distribution Test</b>						<b>Data Distribution</b>					
1795	k star (bias corrected)				0.646	<b>Data appear Gamma Distributed at 5% Significance Level</b>						
1796	Theta Star				2483							
1797	MLE of Mean				1604							
1798	MLE of Standard Deviation				1996							
1799	nu star				100.8							
1800	Approximate Chi Square Value (.05)				78.65	<b>Nonparametric Statistics</b>						
1801	Adjusted Level of Significance				0.0469	95% CLT UCL				2044		
1802	Adjusted Chi Square Value				78.28	95% Jackknife UCL				2049		
1803						95% Standard Bootstrap UCL				2032		
1804	Anderson-Darling Test Statistic				0.54	95% Bootstrap-t UCL				2307		
1805	Anderson-Darling 5% Critical Value				0.802	95% Hall's Bootstrap UCL				2357		
1806	Kolmogorov-Smirnov Test Statistic				0.0921	95% Percentile Bootstrap UCL				2076		
1807	Kolmogorov-Smirnov 5% Critical Value				0.106	95% BCA Bootstrap UCL				2216		
1808	<b>Data appear Gamma Distributed at 5% Significance Level</b>						95% Chebyshev(Mean, Sd) UCL				2770	
1809							97.5% Chebyshev(Mean, Sd) UCL				3274	
1810	<b>Assuming Gamma Distribution</b>						99% Chebyshev(Mean, Sd) UCL				4264	
1811	95% Approximate Gamma UCL (Use when n >= 40)				2056							
1812	95% Adjusted Gamma UCL (Use when n < 40)				2066							
1813												
1814	<b>Potential UCL to Use</b>						Use 95% Approximate Gamma UCL					
1815												
1816	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>											
1817	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)</b>											
1818	<b>and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.</b>											
1819												
1820												

	A	B	C	D	E	F	G	H	I	J	K	L	
1821	Mercury												
1822													
1823	<b>General Statistics</b>												
1824	Number of Valid Data					78		Number of Detected Data					12
1825	Number of Distinct Detected Data					10		Number of Non-Detect Data					66
1826												Percent Non-Detects	84.62%
1827													
1828	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>						
1829	Minimum Detected					0.074		Minimum Detected					-2.604
1830	Maximum Detected					1.5		Maximum Detected					0.405
1831	Mean of Detected					0.26		Mean of Detected					-1.794
1832	SD of Detected					0.394		SD of Detected					0.807
1833	Minimum Non-Detect					0.07		Minimum Non-Detect					-2.659
1834	Maximum Non-Detect					0.07		Maximum Non-Detect					-2.659
1835													
1836													
1837	<b>UCL Statistics</b>												
1838	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>						
1839	Shapiro Wilk Test Statistic					0.458		Shapiro Wilk Test Statistic					0.796
1840	5% Shapiro Wilk Critical Value					0.859		5% Shapiro Wilk Critical Value					0.859
1841	<b>Data not Normal at 5% Significance Level</b>						<b>Data not Lognormal at 5% Significance Level</b>						
1842													
1843	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>						
1844	DL/2 Substitution Method							DL/2 Substitution Method					
1845	Mean					0.0697		Mean					-3.113
1846	SD					0.17		SD					0.643
1847	95% DL/2 (t) UCL					0.102		95% H-Stat (DL/2) UCL					0.0631
1848													
1849	Maximum Likelihood Estimate(MLE) Method					N/A		Log ROS Method					
1850	<b>MLE yields a negative mean</b>						Mean in Log Scale						-4.842
1851												SD in Log Scale	1.963
1852												Mean in Original Scale	0.0494
1853												SD in Original Scale	0.175
1854												95% t UCL	0.0824
1855												95% Percentile Bootstrap UCL	0.0871
1856												95% BCA Bootstrap UCL	0.109
1857												95% H-UCL	0.115
1858													
1859	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>						
1860	k star (bias corrected)					0.997		<b>Data do not follow a Discernable Distribution (0.05)</b>					
1861	Theta Star					0.261							
1862	nu star					23.92							
1863													
1864	A-D Test Statistic					1.554		<b>Nonparametric Statistics</b>					
1865	5% A-D Critical Value					0.751		Kaplan-Meier (KM) Method					
1866	K-S Test Statistic					0.751		Mean					0.103
1867	5% K-S Critical Value					0.251		SD					0.163
1868	<b>Data not Gamma Distributed at 5% Significance Level</b>						SE of Mean						0.0192
1869												95% KM (t) UCL	0.135
1870	<b>Assuming Gamma Distribution</b>						95% KM (z) UCL						0.134
1871	Gamma ROS Statistics using Extrapolated Data							95% KM (jackknife) UCL					0.133
1872	Minimum					0.000001		95% KM (bootstrap t) UCL					0.233

	A	B	C	D	E	F	G	H	I	J	K	L
1873					Maximum	1.5					95% KM (BCA) UCL	0.156
1874					Mean	0.0401					95% KM (Percentile Bootstrap) UCL	0.141
1875					Median	0.000001					95% KM (Chebyshev) UCL	0.187
1876					SD	0.177					97.5% KM (Chebyshev) UCL	0.223
1877					k star	0.0985					99% KM (Chebyshev) UCL	0.294
1878					Theta star	0.406						
1879					Nu star	15.37				<b>Potential UCLs to Use</b>		
1880					AppChi2	7.521					95% KM (t) UCL	0.135
1881					95% Gamma Approximate UCL (Use when n >= 40)	0.0819					95% KM (% Bootstrap) UCL	0.141
1882					95% Adjusted Gamma UCL (Use when n < 40)	0.083						
1883	<b>Note: DL/2 is not a recommended method.</b>											
1884												
1885	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>											
1886	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>											
1887	<b>For additional insight, the user may want to consult a statistician.</b>											
1888												
1889												
1890	<b>Methane</b>											
1891												
1892	<b>General Statistics</b>											
1893					Number of Valid Data	123					Number of Detected Data	112
1894					Number of Distinct Detected Data	96					Number of Non-Detect Data	11
1895											Percent Non-Detects	8.94%
1896												
1897	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>					
1898					Minimum Detected	0.079					Minimum Detected	-2.538
1899					Maximum Detected	7700					Maximum Detected	8.949
1900					Mean of Detected	1349					Mean of Detected	3.925
1901					SD of Detected	2080					SD of Detected	3.537
1902					Minimum Non-Detect	0.074					Minimum Non-Detect	-2.604
1903					Maximum Non-Detect	0.074					Maximum Non-Detect	-2.604
1904												
1905												
1906	<b>UCL Statistics</b>											
1907	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>					
1908					Lilliefors Test Statistic	0.325					Lilliefors Test Statistic	0.145
1909					5% Lilliefors Critical Value	0.0837					5% Lilliefors Critical Value	0.0837
1910	<b>Data not Normal at 5% Significance Level</b>						<b>Data not Lognormal at 5% Significance Level</b>					
1911												
1912	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>					
1913					DL/2 Substitution Method						DL/2 Substitution Method	
1914					Mean	1229					Mean	3.279
1915					SD	2022					SD	3.958
1916					95% DL/2 (t) UCL	1531					95% H-Stat (DL/2) UCL	527398
1917												
1918					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
1919					Mean	1106					Mean in Log Scale	3.218
1920					SD	2149					SD in Log Scale	4.082
1921					95% MLE (t) UCL	1427					Mean in Original Scale	1229
1922					95% MLE (Tiku) UCL	1406					SD in Original Scale	2022
1923											95% t UCL	1531
1924											95% Percentile Bootstrap UCL	1538

	A	B	C	D	E	F	G	H	I	J	K	L	
1925										95% BCA Bootstrap UCL		1558	
1926										95% H UCL		923738	
1927													
1928	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>						
1929					k star (bias corrected)	0.221	<b>Data do not follow a Discernable Distribution (0.05)</b>						
1930					Theta Star	6112							
1931					nu star	49.45							
1932													
1933					A-D Test Statistic	5.568	<b>Nonparametric Statistics</b>						
1934					5% A-D Critical Value	0.903	Kaplan-Meier (KM) Method						
1935					K-S Test Statistic	0.903	Mean						
1936					5% K-S Critical Value	0.0953	SD						
1937	<b>Data not Gamma Distributed at 5% Significance Level</b>						SE of Mean						
1938							95% KM (t) UCL						
1939	<b>Assuming Gamma Distribution</b>						95% KM (z) UCL						
1940	Gamma ROS Statistics using Extrapolated Data						95% KM (jackknife) UCL						
1941					Minimum	0.000001	95% KM (bootstrap t) UCL						
1942					Maximum	7700	95% KM (BCA) UCL						
1943					Mean	1229	95% KM (Percentile Bootstrap) UCL						
1944					Median	11	95% KM (Chebyshev) UCL						
1945					SD	2022	97.5% KM (Chebyshev) UCL						
1946					k star	0.161	99% KM (Chebyshev) UCL						
1947					Theta star	7630							
1948					Nu star	39.61	<b>Potential UCLs to Use</b>						
1949					AppChi2	26.19	97.5% KM (Chebyshev) UCL						
1950	95% Gamma Approximate UCL (Use when n >= 40)						1858						
1951	95% Adjusted Gamma UCL (Use when n < 40)						1867						
1952	<b>Note: DL/2 is not a recommended method.</b>												
1953													
1954	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>												
1955	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>												
1956	<b>For additional insight, the user may want to consult a statistician.</b>												
1957													
1958													
1959	<b>Methyl tert-butyl ether</b>												
1960													
1961	<b>General Statistics</b>												
1962					Number of Valid Data	123	Number of Detected Data						39
1963					Number of Distinct Detected Data	32	Number of Non-Detect Data						84
1964							Percent Non-Detects						68.29%
1965													
1966	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>						
1967					Minimum Detected	0.95	Minimum Detected						-0.0513
1968					Maximum Detected	27	Maximum Detected						3.296
1969					Mean of Detected	4.639	Mean of Detected						1.115
1970					SD of Detected	5.521	SD of Detected						0.844
1971					Minimum Non-Detect	0.74	Minimum Non-Detect						-0.301
1972					Maximum Non-Detect	1900	Maximum Non-Detect						7.55
1973													
1974	Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect						123
1975	For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected						0
1976	Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage						100.00%

	A	B	C	D	E	F	G	H	I	J	K	L	
1977													
1978	<b>UCL Statistics</b>												
1979	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>						
1980	Shapiro Wilk Test Statistic					0.646	Shapiro Wilk Test Statistic					0.915	
1981	5% Shapiro Wilk Critical Value					0.939	5% Shapiro Wilk Critical Value					0.939	
1982	<b>Data not Normal at 5% Significance Level</b>						<b>Data not Lognormal at 5% Significance Level</b>						
1983													
1984	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>						
1985	DL/2 Substitution Method						DL/2 Substitution Method						
1986	Mean					11.2	Mean					0.127	
1987	SD					85.95	SD					1.407	
1988	95% DL/2 (t) UCL					24.05	95% H-Stat (DL/2) UCL					4.243	
1989													
1990	Maximum Likelihood Estimate(MLE) Method						N/A	Log ROS Method					
1991	<b>MLE method failed to converge properly</b>						Mean in Log Scale					-0.539	
1992	SD in Log Scale												1.48
1993	Mean in Original Scale												1.747
1994	SD in Original Scale												3.672
1995	95% t UCL												2.296
1996	95% Percentile Bootstrap UCL												2.336
1997	95% BCA Bootstrap UCL												2.469
1998	95% H-UCL												2.493
1999													
2000	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>						
2001	k star (bias corrected)					1.249	<b>Data do not follow a Discernable Distribution (0.05)</b>						
2002	Theta Star					3.714							
2003	nu star					97.42							
2004													
2005	A-D Test Statistic					2.217	<b>Nonparametric Statistics</b>						
2006	5% A-D Critical Value					0.77	Kaplan-Meier (KM) Method						
2007	K-S Test Statistic					0.77	Mean					2.204	
2008	5% K-S Critical Value					0.144	SD					3.583	
2009	<b>Data not Gamma Distributed at 5% Significance Level</b>						SE of Mean					0.335	
2010	95% KM (t) UCL												2.76
2011	<b>Assuming Gamma Distribution</b>						95% KM (z) UCL						2.755
2012	Gamma ROS Statistics using Extrapolated Data						95% KM (jackknife) UCL						2.743
2013	Minimum					0.000001	95% KM (bootstrap t) UCL					3.036	
2014	Maximum					27	95% KM (BCA) UCL					2.917	
2015	Mean					1.49	95% KM (Percentile Bootstrap) UCL					2.82	
2016	Median					0.000001	95% KM (Chebyshev) UCL					3.665	
2017	SD					3.765	97.5% KM (Chebyshev) UCL					4.298	
2018	k star					0.0922	99% KM (Chebyshev) UCL					5.54	
2019	Theta star					16.16							
2020	Nu star					22.68	<b>Potential UCLs to Use</b>						
2021	AppChi2					12.85	95% KM (t) UCL					2.76	
2022	95% Gamma Approximate UCL (Use when n >= 40)					2.629	95% KM (% Bootstrap) UCL					2.82	
2023	95% Adjusted Gamma UCL (Use when n < 40)					2.647							
2024	<b>Note: DL/2 is not a recommended method.</b>												
2025													
2026	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>												
2027	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>												
2028	<b>For additional insight, the user may want to consult a statistician.</b>												

	A	B	C	D	E	F	G	H	I	J	K	L
2029												
2030												
2031	m-Xylene & p-Xylene											
2032												
2033	<b>General Statistics</b>											
2034	Number of Valid Data					132		Number of Detected Data				29
2035	Number of Distinct Detected Data					26		Number of Non-Detect Data				103
2036								Percent Non-Detects				78.03%
2037												
2038	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>					
2039	Minimum Detected					1.6		Minimum Detected				0.47
2040	Maximum Detected					39000		Maximum Detected				10.57
2041	Mean of Detected					2817		Mean of Detected				4.138
2042	SD of Detected					7659		SD of Detected				3.343
2043	Minimum Non-Detect					1		Minimum Non-Detect				0
2044	Maximum Non-Detect					4000		Maximum Non-Detect				8.294
2045												
2046	Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect				127	
2047	For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected				5	
2048	Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage				96.21%	
2049												
2050	<b>UCL Statistics</b>											
2051	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>					
2052	Shapiro Wilk Test Statistic					0.424		Shapiro Wilk Test Statistic				0.873
2053	5% Shapiro Wilk Critical Value					0.926		5% Shapiro Wilk Critical Value				0.926
2054	<b>Data not Normal at 5% Significance Level</b>						<b>Data not Lognormal at 5% Significance Level</b>					
2055												
2056	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>					
2057	DL/2 Substitution Method							DL/2 Substitution Method				
2058	Mean					634.6		Mean				0.712
2059	SD					3731		SD				2.495
2060	95% DL/2 (t) UCL					1173		95% H-Stat (DL/2) UCL				106.6
2061												
2062	Maximum Likelihood Estimate(MLE) Method					N/A		Log ROS Method				
2063	<b>MLE yields a negative mean</b>						Mean in Log Scale				-5.374	
2064								SD in Log Scale				6.951
2065								Mean in Original Scale				618.9
2066								SD in Original Scale				3729
2067								95% t UCL				1157
2068								95% Percentile Bootstrap UCL				1225
2069								95% BCA Bootstrap UCL				1531
2070								95% H-UCL				5.783E+10
2071												
2072	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>					
2073	k star (bias corrected)					0.197		<b>Data do not follow a Discernable Distribution (0.05)</b>				
2074	Theta Star					14288						
2075	nu star					11.43						
2076												
2077	A-D Test Statistic					2.105		<b>Nonparametric Statistics</b>				
2078	5% A-D Critical Value					0.9		Kaplan-Meier (KM) Method				
2079	K-S Test Statistic					0.9		Mean				620.5
2080	5% K-S Critical Value					0.18		SD				3715

	A	B	C	D	E	F	G	H	I	J	K	L
2081	<b>Data not Gamma Distributed at 5% Significance Level</b>						SE of Mean				329.1	
2082							95% KM (t) UCL				1166	
2083	<b>Assuming Gamma Distribution</b>						95% KM (z) UCL				1162	
2084	Gamma ROS Statistics using Extrapolated Data						95% KM (jackknife) UCL				1158	
2085	Minimum						0.000001	95% KM (bootstrap t) UCL				2124
2086	Maximum						39000	95% KM (BCA) UCL				1274
2087	Mean						618.9	95% KM (Percentile Bootstrap) UCL				1239
2088	Median						0.000001	95% KM (Chebyshev) UCL				2055
2089	SD						3729	97.5% KM (Chebyshev) UCL				2676
2090	k star						0.0572	99% KM (Chebyshev) UCL				3895
2091	Theta star						10818					
2092	Nu star						15.1	<b>Potential UCLs to Use</b>				
2093	AppChi2						7.333	97.5% KM (Chebyshev) UCL				2676
2094	95% Gamma Approximate UCL (Use when n >= 40)						1275					
2095	95% Adjusted Gamma UCL (Use when n < 40)						1285					
2096	<b>Note: DL/2 is not a recommended method.</b>											
2097												
2098	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>											
2099	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>											
2100	<b>For additional insight, the user may want to consult a statistician.</b>											
2101												
2102												
2103	<b>Naphthalene</b>											
2104												
2105	<b>General Statistics</b>											
2106	Number of Valid Data						123	Number of Detected Data				37
2107	Number of Distinct Detected Data						34	Number of Non-Detect Data				86
2108								Percent Non-Detects				69.92%
2109												
2110	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>					
2111	Minimum Detected						0.18	Minimum Detected				-1.715
2112	Maximum Detected						250	Maximum Detected				5.521
2113	Mean of Detected						38.3	Mean of Detected				2.137
2114	SD of Detected						63.78	SD of Detected				2.067
2115	Minimum Non-Detect						0.17	Minimum Non-Detect				-1.772
2116	Maximum Non-Detect						5	Maximum Non-Detect				1.609
2117												
2118	Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect				98	
2119	For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected				25	
2120	Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage				79.67%	
2121												
2122	<b>UCL Statistics</b>											
2123	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>					
2124	Shapiro Wilk Test Statistic						0.634	Shapiro Wilk Test Statistic				0.949
2125	5% Shapiro Wilk Critical Value						0.936	5% Shapiro Wilk Critical Value				0.936
2126	<b>Data not Normal at 5% Significance Level</b>						<b>Data appear Lognormal at 5% Significance Level</b>					
2127												
2128	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>					
2129	DL/2 Substitution Method						DL/2 Substitution Method					
2130	Mean						11.81	Mean				-0.342
2131	SD						38.79	SD				2.176
2132	95% DL/2 (t) UCL						17.61	95% H-Stat (DL/2) UCL				14.99

	A	B	C	D	E	F	G	H	I	J	K	L
2133												
2134	Maximum Likelihood Estimate(MLE) Method					N/A	Log ROS Method					
2135	<b>MLE yields a negative mean</b>						Mean in Log Scale					-2.257
2136							SD in Log Scale					3.725
2137							Mean in Original Scale					11.6
2138							SD in Original Scale					38.85
2139							95% t UCL					17.4
2140							95% Percentile Bootstrap UCL					17.9
2141							95% BCA Bootstrap UCL					19.61
2142							95% H-UCL					677.7
2143												
2144	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>					
2145	k star (bias corrected)					0.414	<b>Data appear Gamma Distributed at 5% Significance Level</b>					
2146	Theta Star					92.52						
2147	nu star					30.64						
2148												
2149	A-D Test Statistic					0.667	<b>Nonparametric Statistics</b>					
2150	5% A-D Critical Value					0.828	Kaplan-Meier (KM) Method					
2151	K-S Test Statistic					0.828	Mean					11.66
2152	5% K-S Critical Value					0.155	SD					38.67
2153	<b>Data appear Gamma Distributed at 5% Significance Level</b>						SE of Mean					3.535
2154							95% KM (t) UCL					17.52
2155	<b>Assuming Gamma Distribution</b>						95% KM (z) UCL					17.48
2156	Gamma ROS Statistics using Extrapolated Data						95% KM (jackknife) UCL					17.4
2157	Minimum					0.000001	95% KM (bootstrap t) UCL					21.1
2158	Maximum					250	95% KM (BCA) UCL					18.59
2159	Mean					11.52	95% KM (Percentile Bootstrap) UCL					18.07
2160	Median					0.000001	95% KM (Chebyshev) UCL					27.08
2161	SD					38.88	97.5% KM (Chebyshev) UCL					33.74
2162	k star					0.0771	99% KM (Chebyshev) UCL					46.84
2163	Theta star					149.4						
2164	Nu star					18.97	<b>Potential UCLs to Use</b>					
2165	AppChi2					10.09	95% KM (t) UCL					17.52
2166	95% Gamma Approximate UCL (Use when n >= 40)					21.65						
2167	95% Adjusted Gamma UCL (Use when n < 40)					21.82						
2168	<b>Note: DL/2 is not a recommended method.</b>											
2169												
2170	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>											
2171	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>											
2172	<b>For additional insight, the user may want to consult a statistician.</b>											
2173												
2174												
2175	<b>Nickel</b>											
2176												
2177	<b>General Statistics</b>											
2178	Number of Valid Data					78	Number of Detected Data					19
2179	Number of Distinct Detected Data					19	Number of Non-Detect Data					59
2180							Percent Non-Detects					75.64%
2181												
2182	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>					
2183	Minimum Detected					3.3	Minimum Detected					1.194
2184	Maximum Detected					450	Maximum Detected					6.109

	A	B	C	D	E	F	G	H	I	J	K	L	
2185	Mean of Detected					55.52	Mean of Detected					3.111	
2186	SD of Detected					102.1	SD of Detected					1.337	
2187	Minimum Non-Detect					3	Minimum Non-Detect					1.099	
2188	Maximum Non-Detect					15	Maximum Non-Detect					2.708	
2189													
2190	Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect					66	
2191	For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected					12	
2192	Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage					84.62%	
2193													
2194	<b>UCL Statistics</b>												
2195	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>						
2196	Shapiro Wilk Test Statistic					0.513	Shapiro Wilk Test Statistic					0.953	
2197	5% Shapiro Wilk Critical Value					0.901	5% Shapiro Wilk Critical Value					0.901	
2198	<b>Data not Normal at 5% Significance Level</b>						<b>Data appear Lognormal at 5% Significance Level</b>						
2199													
2200	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>						
2201	DL/2 Substitution Method						DL/2 Substitution Method						
2202	Mean					14.81	Mean					1.106	
2203	SD					54.58	SD					1.34	
2204	95% DL/2 (t) UCL					25.1	95% H-Stat (DL/2) UCL					11.07	
2205													
2206	Maximum Likelihood Estimate(MLE) Method						N/A	Log ROS Method					
2207	<b>MLE yields a negative mean</b>						Mean in Log Scale					-0.638	
2208							SD in Log Scale					2.868	
2209							Mean in Original Scale					13.98	
2210							SD in Original Scale					54.78	
2211							95% t UCL					24.31	
2212							95% Percentile Bootstrap UCL					25.25	
2213							95% BCA Bootstrap UCL					31.22	
2214							95% H-UCL					145.6	
2215													
2216	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>						
2217	k star (bias corrected)					0.6	<b>Data Follow Appr. Gamma Distribution at 5% Significance Level</b>						
2218	Theta Star					92.47							
2219	nu star					22.82							
2220													
2221	A-D Test Statistic					0.84	<b>Nonparametric Statistics</b>						
2222	5% A-D Critical Value					0.786	Kaplan-Meier (KM) Method						
2223	K-S Test Statistic					0.786	Mean					16.03	
2224	5% K-S Critical Value					0.207	SD					53.93	
2225	<b>Data follow Appr. Gamma Distribution at 5% Significance Level</b>						SE of Mean					6.274	
2226							95% KM (t) UCL					26.47	
2227	<b>Assuming Gamma Distribution</b>						95% KM (z) UCL					26.35	
2228	Gamma ROS Statistics using Extrapolated Data						95% KM (jackknife) UCL					25.98	
2229	Minimum					0.000001	95% KM (bootstrap t) UCL					45.75	
2230	Maximum					450	95% KM (BCA) UCL					30.47	
2231	Mean					13.52	95% KM (Percentile Bootstrap) UCL					28.11	
2232	Median					0.000001	95% KM (Chebyshev) UCL					43.38	
2233	SD					54.89	97.5% KM (Chebyshev) UCL					55.21	
2234	k star					0.0749	99% KM (Chebyshev) UCL					78.45	
2235	Theta star					180.7							
2236	Nu star					11.68	<b>Potential UCLs to Use</b>						

	A	B	C	D	E	F	G	H	I	J	K	L
2237	AppChi2				5.015	95% KM (t) UCL					26.47	
2238	95% Gamma Approximate UCL (Use when n >= 40)				31.49							
2239	95% Adjusted Gamma UCL (Use when n < 40)				32.01							
2240	<b>Note: DL/2 is not a recommended method.</b>											
2241												
2242	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>											
2243	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>											
2244	<b>For additional insight, the user may want to consult a statistician.</b>											
2245												
2246												
2247	<b>Nitrobenzene</b>											
2248												
2249	<b>General Statistics</b>											
2250	Number of Valid Data				78	Number of Detected Data				1		
2251	Number of Distinct Detected Data				1	Number of Non-Detect Data				77		
2252						Percent Non-Detects				98.72%		
2253												
2254	<b>Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!</b>											
2255	<b>It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).</b>											
2256												
2257	<b>The data set for variable Nitrobenzene was not processed!</b>											
2258												
2259												
2260												
2261	<b>o-Xylene</b>											
2262												
2263	<b>General Statistics</b>											
2264	Number of Valid Data				132	Number of Detected Data				18		
2265	Number of Distinct Detected Data				18	Number of Non-Detect Data				114		
2266						Percent Non-Detects				86.36%		
2267												
2268	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>					
2269	Minimum Detected				1.6	Minimum Detected				0.47		
2270	Maximum Detected				29000	Maximum Detected				10.28		
2271	Mean of Detected				2300	Mean of Detected				4.084		
2272	SD of Detected				6821	SD of Detected				3.283		
2273	Minimum Non-Detect				0.69	Minimum Non-Detect				-0.371		
2274	Maximum Non-Detect				4000	Maximum Non-Detect				8.294		
2275												
2276	Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect			130		
2277	For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected			2		
2278	Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage			98.48%		
2279												
2280	<b>UCL Statistics</b>											
2281	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>					
2282	Shapiro Wilk Test Statistic				0.381	Shapiro Wilk Test Statistic				0.893		
2283	5% Shapiro Wilk Critical Value				0.897	5% Shapiro Wilk Critical Value				0.897		
2284	<b>Data not Normal at 5% Significance Level</b>						<b>Data not Lognormal at 5% Significance Level</b>					
2285												
2286	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>					
2287	DL/2 Substitution Method					DL/2 Substitution Method						
2288	Mean				329.5	Mean				0.324		

	A	B	C	D	E	F	G	H	I	J	K	L	
2289					SD	2586					SD	2.083	
2290					95% DL/2 (t) UCL	702.3				95% H-Stat (DL/2) UCL		22.33	
2291													
2292					Maximum Likelihood Estimate(MLE) Method	N/A				Log ROS Method			
2293					<b>MLE method failed to converge properly</b>					Mean in Log Scale		-8.072	
2294										SD in Log Scale		7.396	
2295										Mean in Original Scale		313.6	
2296										SD in Original Scale		2582	
2297										95% t UCL		685.9	
2298										95% Percentile Bootstrap UCL		748.1	
2299										95% BCA Bootstrap UCL		1172	
2300										95% H-UCL		2.064E+11	
2301													
2302					<b>Gamma Distribution Test with Detected Values Only</b>			<b>Data Distribution Test with Detected Values Only</b>					
2303					k star (bias corrected)	0.205	<b>Data Follow Appr. Gamma Distribution at 5% Significance Level</b>						
2304					Theta Star	11240							
2305					nu star	7.366							
2306													
2307					A-D Test Statistic	1.189	<b>Nonparametric Statistics</b>						
2308					5% A-D Critical Value	0.884	Kaplan-Meier (KM) Method						
2309					K-S Test Statistic	0.884	Mean					315.4	
2310					5% K-S Critical Value	0.225	SD					2572	
2311					<b>Data follow Appr. Gamma Distribution at 5% Significance Level</b>			SE of Mean					230.4
2312							95% KM (t) UCL					697	
2313					<b>Assuming Gamma Distribution</b>			95% KM (z) UCL					694.3
2314					Gamma ROS Statistics using Extrapolated Data			95% KM (jackknife) UCL					687.6
2315					Minimum	0.000001	95% KM (bootstrap t) UCL					2726	
2316					Maximum	29000	95% KM (BCA) UCL					795.5	
2317					Mean	313.6	95% KM (Percentile Bootstrap) UCL					729.3	
2318					Median	0.000001	95% KM (Chebyshev) UCL					1320	
2319					SD	2582	97.5% KM (Chebyshev) UCL					1754	
2320					k star	0.0549	99% KM (Chebyshev) UCL					2607	
2321					Theta star	5712							
2322					Nu star	14.5	<b>Potential UCLs to Use</b>						
2323					AppChi2	6.912	95% KM (t) UCL					697	
2324					95% Gamma Approximate UCL (Use when n >= 40)			657.7					
2325					95% Adjusted Gamma UCL (Use when n < 40)			663.2					
2326	<b>Note: DL/2 is not a recommended method.</b>												
2327													
2328	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>												
2329	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>												
2330	<b>For additional insight, the user may want to consult a statistician.</b>												
2331													
2332													
2333	<b>Phenol</b>												
2334													
2335	<b>General Statistics</b>												
2336					Number of Valid Data	78	Number of Detected Data					6	
2337					Number of Distinct Detected Data	6	Number of Non-Detect Data					72	
2338							Percent Non-Detects					92.31%	
2339													
2340	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>						

	A	B	C	D	E	F	G	H	I	J	K	L	
2341				Minimum Detected		12				Minimum Detected		2.485	
2342				Maximum Detected		120				Maximum Detected		4.787	
2343				Mean of Detected		58.5				Mean of Detected		3.755	
2344				SD of Detected		44.13				SD of Detected		0.929	
2345				Minimum Non-Detect		2.5				Minimum Non-Detect		0.916	
2346				Maximum Non-Detect		52				Maximum Non-Detect		3.951	
2347													
2348	Note: Data have multiple DLs - Use of KM Method is recommended							Number treated as Non-Detect				75	
2349	For all methods (except KM, DL/2, and ROS Methods),							Number treated as Detected				3	
2350	Observations < Largest ND are treated as NDs							Single DL Non-Detect Percentage				96.15%	
2351													
2352	<b>Warning: There are only 6 Detected Values in this data</b>												
2353	<b>Note: It should be noted that even though bootstrap may be performed on this data set</b>												
2354	<b>the resulting calculations may not be reliable enough to draw conclusions</b>												
2355													
2356	<b>It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.</b>												
2357													
2358													
2359	<b>UCL Statistics</b>												
2360	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>						
2361				Shapiro Wilk Test Statistic		0.907				Shapiro Wilk Test Statistic		0.92	
2362				5% Shapiro Wilk Critical Value		0.788				5% Shapiro Wilk Critical Value		0.788	
2363	<b>Data appear Normal at 5% Significance Level</b>						<b>Data appear Lognormal at 5% Significance Level</b>						
2364													
2365	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>						
2366				DL/2 Substitution Method						DL/2 Substitution Method			
2367				Mean		6.473				Mean		0.679	
2368				SD		19.15				SD		1.076	
2369				95% DL/2 (t) UCL		10.08				95% H-Stat (DL/2) UCL		4.689	
2370													
2371	Maximum Likelihood Estimate(MLE) Method						N/A	Log ROS Method					
2372	<b>MLE yields a negative mean</b>												
2373							Mean in Log Scale						-1.169
2374							SD in Log Scale						2.456
2375							Mean in Original Scale						5.409
2376							SD in Original Scale						19.17
2377							95% t UCL						9.022
2378							95% Percentile Bootstrap UCL						9.087
2379							95% BCA Bootstrap UCL						10.52
2380							95% H-UCL						19.62
2381	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>						
2382				k star (bias corrected)		0.982	<b>Data appear Normal at 5% Significance Level</b>						
2383				Theta Star		59.55							
2384				nu star		11.79							
2385													
2386				A-D Test Statistic		0.339	<b>Nonparametric Statistics</b>						
2387				5% A-D Critical Value		0.706	Kaplan-Meier (KM) Method						
2388				K-S Test Statistic		0.706					Mean	15.58	
2389				5% K-S Critical Value		0.337					SD	16.68	
2390	<b>Data appear Gamma Distributed at 5% Significance Level</b>												
2391							SE of Mean						2.07
2392							95% KM (t) UCL						19.03
2392	<b>Assuming Gamma Distribution</b>						95% KM (z) UCL						18.99

	A	B	C	D	E	F	G	H	I	J	K	L
2393	Gamma ROS Statistics using Extrapolated Data						95% KM (jackknife) UCL					20.97
2394					Minimum	0.000001	95% KM (bootstrap t) UCL					20.04
2395					Maximum	120	95% KM (BCA) UCL					76.78
2396					Mean	4.5	95% KM (Percentile Bootstrap) UCL					35.32
2397					Median	0.000001	95% KM (Chebyshev) UCL					24.61
2398					SD	19.3	97.5% KM (Chebyshev) UCL					28.51
2399					k star	0.0676	99% KM (Chebyshev) UCL					36.18
2400					Theta star	66.55						
2401					Nu star	10.55	<b>Potential UCLs to Use</b>					
2402					AppChi2	4.288	95% KM (t) UCL					19.03
2403	95% Gamma Approximate UCL (Use when n >= 40)					11.07	95% KM (Percentile Bootstrap) UCL					35.32
2404	95% Adjusted Gamma UCL (Use when n < 40)					11.27						
2405	<b>Note: DL/2 is not a recommended method.</b>											
2406												
2407	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>											
2408	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>											
2409	<b>For additional insight, the user may want to consult a statistician.</b>											
2410												
2411												
2412	<b>Pyrene</b>											
2413												
2414	<b>General Statistics</b>											
2415	Number of Valid Data					78	Number of Detected Data					2
2416	Number of Distinct Detected Data					2	Number of Non-Detect Data					76
2417							Percent Non-Detects					97.44%
2418												
2419	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>					
2420	Minimum Detected					0.62	Minimum Detected					-0.478
2421	Maximum Detected					0.63	Maximum Detected					-0.462
2422	Mean of Detected					0.625	Mean of Detected					-0.47
2423	SD of Detected					0.00707	SD of Detected					0.0113
2424	Minimum Non-Detect					0.21	Minimum Non-Detect					-1.561
2425	Maximum Non-Detect					4.2	Maximum Non-Detect					1.435
2426												
2427	Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect					78
2428	For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected					0
2429	Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage					100.00%
2430												
2431	<b>Warning: Data set has only 2 Distinct Detected Values.</b>											
2432	<b>This may not be adequate enough to compute meaningful and reliable test statistics and estimates.</b>											
2433	<b>The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).</b>											
2434												
2435	<b>Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.</b>											
2436												
2437	<b>The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.</b>											
2438	<b>Those methods will return a 'N/A' value on your output display!</b>											
2439												
2440	<b>It is necessary to have 4 or more Distinct Values for bootstrap methods.</b>											
2441	<b>However, results obtained using 4 to 9 distinct values may not be reliable.</b>											
2442	<b>It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.</b>											
2443												
2444												

	A	B	C	D	E	F	G	H	I	J	K	L	
2445	<b>UCL Statistics</b>												
2446	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>						
2447	Shapiro Wilk Test Statistic					N/A	Shapiro Wilk Test Statistic					N/A	
2448	5% Shapiro Wilk Critical Value					N/A	5% Shapiro Wilk Critical Value					N/A	
2449	<b>Data not Normal at 5% Significance Level</b>						<b>Data not Lognormal at 5% Significance Level</b>						
2450													
2451	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>						
2452	DL/2 Substitution Method						DL/2 Substitution Method						
2453	Mean					0.182	Mean					-2.054	
2454	SD					0.287	SD					0.609	
2455	95% DL/2 (t) UCL					0.236	95% H-Stat (DL/2) UCL					0.177	
2456													
2457	Maximum Likelihood Estimate(MLE) Method					N/A	Log ROS Method						
2458	<b>MLE method failed to converge properly</b>						Mean in Log Scale					N/A	
2459	SD in Log Scale												N/A
2460	Mean in Original Scale												N/A
2461	SD in Original Scale												N/A
2462	95% t UCL												N/A
2463	95% Percentile Bootstrap UCL												N/A
2464	95% BCA Bootstrap UCL												N/A
2465	95% H-UCL												N/A
2466													
2467	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>						
2468	k star (bias corrected)					N/A	<b>Data do not follow a Discernable Distribution (0.05)</b>						
2469	Theta Star					N/A							
2470	nu star					N/A							
2471													
2472	A-D Test Statistic					N/A	<b>Nonparametric Statistics</b>						
2473	5% A-D Critical Value					N/A	Kaplan-Meier (KM) Method						
2474	K-S Test Statistic					N/A	Mean					0.62	
2475	5% K-S Critical Value					N/A	SD					0.00116	
2476	<b>Data not Gamma Distributed at 5% Significance Level</b>						SE of Mean					0.0001924	
2477	95% KM (t) UCL												0.62
2478	<b>Assuming Gamma Distribution</b>						95% KM (z) UCL					0.62	
2479	Gamma ROS Statistics using Extrapolated Data						95% KM (jackknife) UCL					0.627	
2480	Minimum					N/A	95% KM (bootstrap t) UCL					0.62	
2481	Maximum					N/A	95% KM (BCA) UCL					0.63	
2482	Mean					N/A	95% KM (Percentile Bootstrap) UCL					0.63	
2483	Median					N/A	95% KM (Chebyshev) UCL					0.621	
2484	SD					N/A	97.5% KM (Chebyshev) UCL					0.621	
2485	k star					N/A	99% KM (Chebyshev) UCL					0.622	
2486	Theta star					N/A							
2487	Nu star					N/A	<b>Potential UCLs to Use</b>						
2488	AppChi2					N/A	95% KM (t) UCL					0.62	
2489	95% Gamma Approximate UCL (Use when n >= 40)					N/A	95% KM (% Bootstrap) UCL					0.63	
2490	95% Adjusted Gamma UCL (Use when n < 40)					N/A							
2491	<b>Note: DL/2 is not a recommended method.</b>												
2492													
2493	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>												
2494	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>												
2495	<b>For additional insight, the user may want to consult a statistician.</b>												
2496													

	A	B	C	D	E	F	G	H	I	J	K	L	
2497													
2498	<b>Selenium</b>												
2499													
2500	<b>General Statistics</b>												
2501	Number of Valid Data					78		Number of Detected Data					3
2502	Number of Distinct Detected Data					3		Number of Non-Detect Data					75
2503						Percent Non-Detects					96.15%		
2504													
2505	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>						
2506	Minimum Detected					4.4		Minimum Detected					1.482
2507	Maximum Detected					7.2		Maximum Detected					1.974
2508	Mean of Detected					5.9		Mean of Detected					1.755
2509	SD of Detected					1.411		SD of Detected					0.251
2510	Minimum Non-Detect					4		Minimum Non-Detect					1.386
2511	Maximum Non-Detect					4		Maximum Non-Detect					1.386
2512													
2513	<b>Warning: There are only 3 Distinct Detected Values in this data set</b>												
2514	<b>The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.</b>												
2515	<b>Those methods will return a 'N/A' value on your output display!</b>												
2516													
2517													
2518	<b>It is necessary to have 4 or more Distinct Values for bootstrap methods.</b>												
2519	<b>However, results obtained using 4 to 9 distinct values may not be reliable.</b>												
2520	<b>It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.</b>												
2521													
2522													
2523	<b>UCL Statistics</b>												
2524	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>						
2525	Shapiro Wilk Test Statistic					0.985		Shapiro Wilk Test Statistic					0.966
2526	5% Shapiro Wilk Critical Value					0.767		5% Shapiro Wilk Critical Value					0.767
2527	<b>Data appear Normal at 5% Significance Level</b>						<b>Data appear Lognormal at 5% Significance Level</b>						
2528													
2529	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>						
2530	DL/2 Substitution Method							DL/2 Substitution Method					
2531	Mean					2.15		Mean					0.734
2532	SD					0.788		SD					0.209
2533	95% DL/2 (t) UCL					2.299		95% H-Stat (DL/2) UCL					2.218
2534													
2535	Maximum Likelihood Estimate(MLE) Method					N/A		Log ROS Method					
2536	<b>MLE method failed to converge properly</b>						Mean in Log Scale					-0.485	
2537							SD in Log Scale					1.032	
2538							Mean in Original Scale					1.035	
2539							SD in Original Scale					1.252	
2540							95% t UCL					1.271	
2541							95% Percentile Bootstrap UCL					1.281	
2542							95% BCA Bootstrap UCL					1.315	
2543							95% H-UCL					1.374	
2544													
2545	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>						
2546	k star (bias corrected)					N/A		<b>Data appear Normal at 5% Significance Level</b>					
2547	Theta Star					N/A							
2548	nu star					N/A							

	A	B	C	D	E	F	G	H	I	J	K	L
2549												
2550				A-D Test Statistic		N/A	<b>Nonparametric Statistics</b>					
2551				5% A-D Critical Value		N/A	Kaplan-Meier (KM) Method					
2552				K-S Test Statistic		N/A					Mean	4.458
2553				5% K-S Critical Value		N/A					SD	0.366
2554	<b>Data not Gamma Distributed at 5% Significance Level</b>										SE of Mean	0.0508
2555											95% KM (t) UCL	4.542
2556	<b>Assuming Gamma Distribution</b>										95% KM (z) UCL	4.541
2557	Gamma ROS Statistics using Extrapolated Data										95% KM (jackknife) UCL	5.547
2558				Minimum		N/A					95% KM (bootstrap t) UCL	4.485
2559				Maximum		N/A					95% KM (BCA) UCL	7.2
2560				Mean		N/A					95% KM (Percentile Bootstrap) UCL	7.2
2561				Median		N/A					95% KM (Chebyshev) UCL	4.679
2562				SD		N/A					97.5% KM (Chebyshev) UCL	4.775
2563				k star		N/A					99% KM (Chebyshev) UCL	4.963
2564				Theta star		N/A						
2565				Nu star		N/A	<b>Potential UCLs to Use</b>					
2566				AppChi2		N/A					95% KM (t) UCL	4.542
2567				95% Gamma Approximate UCL (Use when n >= 40)		N/A					95% KM (Percentile Bootstrap) UCL	7.2
2568				95% Adjusted Gamma UCL (Use when n < 40)		N/A						
2569	<b>Note: DL/2 is not a recommended method.</b>											
2570												
2571	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>											
2572	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>											
2573	<b>For additional insight, the user may want to consult a statistician.</b>											
2574												
2575												
2576	<b>Silver</b>											
2577												
2578	<b>General Statistics</b>											
2579				Number of Valid Data		78					Number of Detected Data	0
2580				Number of Distinct Detected Data		0					Number of Non-Detect Data	78
2581											Percent Non-Detects	100.00%
2582												
2583	<b>Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!</b>											
2584	<b>Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!</b>											
2585	<b>The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).</b>											
2586												
2587	<b>The data set for variable Silver was not processed!</b>											
2588												
2589												
2590												
2591	<b>Styrene</b>											
2592												
2593	<b>General Statistics</b>											
2594				Number of Valid Data		78					Number of Detected Data	0
2595				Number of Distinct Detected Data		0					Number of Non-Detect Data	78
2596											Percent Non-Detects	100.00%
2597												
2598	<b>Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!</b>											
2599	<b>Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!</b>											
2600	<b>The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).</b>											

	A	B	C	D	E	F	G	H	I	J	K	L	
2601													
2602	<b>The data set for variable Styrene was not processed!</b>												
2603													
2604													
2605													
2606	<b>Sulfolane</b>												
2607													
2608	<b>General Statistics</b>												
2609	Number of Valid Data					123		Number of Detected Data					90
2610	Number of Distinct Detected Data					72		Number of Non-Detect Data					33
2611											Percent Non-Detects	26.83%	
2612													
2613	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>						
2614	Minimum Detected					0.63		Minimum Detected					-0.462
2615	Maximum Detected					14000		Maximum Detected					9.547
2616	Mean of Detected					479.8		Mean of Detected					3.914
2617	SD of Detected					1560		SD of Detected					2.305
2618	Minimum Non-Detect					0.55		Minimum Non-Detect					-0.598
2619	Maximum Non-Detect					0.61		Maximum Non-Detect					-0.494
2620													
2621	Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect						33
2622	For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected						90
2623	Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage						26.83%
2624													
2625	<b>UCL Statistics</b>												
2626	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>						
2627	Lilliefors Test Statistic					0.379		Lilliefors Test Statistic					0.0885
2628	5% Lilliefors Critical Value					0.0934		5% Lilliefors Critical Value					0.0934
2629	<b>Data not Normal at 5% Significance Level</b>						<b>Data appear Lognormal at 5% Significance Level</b>						
2630													
2631	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>						
2632	DL/2 Substitution Method						DL/2 Substitution Method						
2633	Mean					351.1		Mean					2.532
2634	SD					1349		SD					3.021
2635	95% DL/2 (t) UCL					552.8		95% H-Stat (DL/2) UCL					4168
2636													
2637	Maximum Likelihood Estimate(MLE) Method						Log ROS Method						
2638	Mean					4.096		Mean in Log Scale					2.49
2639	SD					1623		SD in Log Scale					3.145
2640	95% MLE (t) UCL					246.7		Mean in Original Scale					351.2
2641	95% MLE (Tiku) UCL					251.1		SD in Original Scale					1349
2642											95% t UCL	552.9	
2643											95% Percentile Bootstrap UCL	569.4	
2644											95% BCA Bootstrap UCL	690.1	
2645											95% H UCL	6435	
2646													
2647	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>						
2648	k star (bias corrected)					0.302		<b>Data appear Lognormal at 5% Significance Level</b>					
2649	Theta Star					1590							
2650	nu star					54.31							
2651													
2652	A-D Test Statistic					4.011		<b>Nonparametric Statistics</b>					

	A	B	C	D	E	F	G	H	I	J	K	L
2653	5% A-D Critical Value					0.867	Kaplan-Meier (KM) Method					
2654	K-S Test Statistic					0.867	Mean					351.2
2655	5% K-S Critical Value					0.102	SD					1344
2656	<b>Data not Gamma Distributed at 5% Significance Level</b>						SE of Mean					121.9
2657							95% KM (t) UCL					553.2
2658	<b>Assuming Gamma Distribution</b>						95% KM (z) UCL					551.7
2659	Gamma ROS Statistics using Extrapolated Data						95% KM (jackknife) UCL					552.8
2660	Minimum					0.000001	95% KM (bootstrap t) UCL					870.8
2661	Maximum					14000	95% KM (BCA) UCL					607.5
2662	Mean					351.1	95% KM (Percentile Bootstrap) UCL					578.6
2663	Median					16	95% KM (Chebyshev) UCL					882.4
2664	SD					1349	97.5% KM (Chebyshev) UCL					1112
2665	k star					0.121	99% KM (Chebyshev) UCL					1564
2666	Theta star					2901						
2667	Nu star					29.77	<b>Potential UCLs to Use</b>					
2668	AppChi2					18.31	97.5% KM (Chebyshev) UCL					1112
2669	95% Gamma Approximate UCL (Use when n >= 40)					570.7						
2670	95% Adjusted Gamma UCL (Use when n < 40)					574.1						
2671	<b>Note: DL/2 is not a recommended method.</b>											
2672												
2673	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>											
2674	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>											
2675	<b>For additional insight, the user may want to consult a statistician.</b>											
2676												
2677												
2678	<b>Tetrachloroethene</b>											
2679												
2680	<b>General Statistics</b>											
2681	Number of Valid Data					78	Number of Detected Data					2
2682	Number of Distinct Detected Data					2	Number of Non-Detect Data					76
2683							Percent Non-Detects					97.44%
2684												
2685	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>					
2686	Minimum Detected					1.3	Minimum Detected					0.262
2687	Maximum Detected					1.5	Maximum Detected					0.405
2688	Mean of Detected					1.4	Mean of Detected					0.334
2689	SD of Detected					0.141	SD of Detected					0.101
2690	Minimum Non-Detect					0.58	Minimum Non-Detect					-0.545
2691	Maximum Non-Detect					1500	Maximum Non-Detect					7.313
2692												
2693	Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect					78
2694	For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected					0
2695	Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage					100.00%
2696												
2697	<b>Warning: Data set has only 2 Distinct Detected Values.</b>											
2698	<b>This may not be adequate enough to compute meaningful and reliable test statistics and estimates.</b>											
2699	<b>The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).</b>											
2700												
2701	<b>Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.</b>											
2702												
2703	<b>The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.</b>											
2704	<b>Those methods will return a 'N/A' value on your output display!</b>											

	A	B	C	D	E	F	G	H	I	J	K	L				
2705																
2706	<b>It is necessary to have 4 or more Distinct Values for bootstrap methods.</b>															
2707	<b>However, results obtained using 4 to 9 distinct values may not be reliable.</b>															
2708	<b>It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.</b>															
2709																
2710																
2711	<b>UCL Statistics</b>															
2712	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>									
2713	Shapiro Wilk Test Statistic			N/A			Shapiro Wilk Test Statistic			N/A						
2714	5% Shapiro Wilk Critical Value			N/A			5% Shapiro Wilk Critical Value			N/A						
2715	<b>Data not Normal at 5% Significance Level</b>						<b>Data not Lognormal at 5% Significance Level</b>									
2716																
2717	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>									
2718	DL/2 Substitution Method						DL/2 Substitution Method									
2719	Mean			12.01			Mean			-0.7						
2720	SD			85.19			SD			1.456						
2721	95% DL/2 (t) UCL			28.07			95% H-Stat (DL/2) UCL			2.262						
2722																
2723	Maximum Likelihood Estimate(MLE) Method						N/A						Log ROS Method			
2724	<b>MLE method failed to converge properly</b>												Mean in Log Scale			N/A
2725													SD in Log Scale			N/A
2726													Mean in Original Scale			N/A
2727													SD in Original Scale			N/A
2728													95% t UCL			N/A
2729													95% Percentile Bootstrap UCL			N/A
2730													95% BCA Bootstrap UCL			N/A
2731													95% H-UCL			N/A
2732																
2733	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>									
2734	k star (bias corrected)			N/A			<b>Data do not follow a Discernable Distribution (0.05)</b>									
2735	Theta Star			N/A												
2736	nu star			N/A												
2737																
2738	A-D Test Statistic			N/A			<b>Nonparametric Statistics</b>									
2739	5% A-D Critical Value			N/A			Kaplan-Meier (KM) Method									
2740	K-S Test Statistic			N/A			Mean			1.303						
2741	5% K-S Critical Value			N/A			SD			0.0241						
2742	<b>Data not Gamma Distributed at 5% Significance Level</b>						SE of Mean			0.00413						
2743							95% KM (t) UCL			1.31						
2744	<b>Assuming Gamma Distribution</b>						95% KM (z) UCL			1.31						
2745	Gamma ROS Statistics using Extrapolated Data						95% KM (jackknife) UCL			1.432						
2746	Minimum			N/A			95% KM (bootstrap t) UCL			N/A						
2747	Maximum			N/A			95% KM (BCA) UCL			N/A						
2748	Mean			N/A			95% KM (Percentile Bootstrap) UCL			N/A						
2749	Median			N/A			95% KM (Chebyshev) UCL			1.321						
2750	SD			N/A			97.5% KM (Chebyshev) UCL			1.329						
2751	k star			N/A			99% KM (Chebyshev) UCL			1.344						
2752	Theta star			N/A												
2753	Nu star			N/A			<b>Potential UCLs to Use</b>									
2754	AppChi2			N/A			95% KM (t) UCL			1.31						
2755	95% Gamma Approximate UCL (Use when n >= 40)			N/A			95% KM (% Bootstrap) UCL			N/A						
2756	95% Adjusted Gamma UCL (Use when n < 40)			N/A												

	A	B	C	D	E	F	G	H	I	J	K	L	
2757	<b>Note: DL/2 is not a recommended method.</b>												
2758													
2759	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>												
2760	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>												
2761	<b>For additional insight, the user may want to consult a statistician.</b>												
2762													
2763													
2764	<b>Toluene</b>												
2765													
2766	<b>General Statistics</b>												
2767	Number of Valid Data					132		Number of Detected Data					13
2768	Number of Distinct Detected Data					13		Number of Non-Detect Data					119
2769											Percent Non-Detects		90.15%
2770													
2771	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>						
2772	Minimum Detected					1.5		Minimum Detected					0.405
2773	Maximum Detected					4500		Maximum Detected					8.412
2774	Mean of Detected					809.8		Mean of Detected					4.493
2775	SD of Detected					1352		SD of Detected					2.681
2776	Minimum Non-Detect					0.7		Minimum Non-Detect					-0.357
2777	Maximum Non-Detect					1800		Maximum Non-Detect					7.496
2778													
2779	Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect					129	
2780	For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected					3	
2781	Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage					97.73%	
2782													
2783	<b>UCL Statistics</b>												
2784	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>						
2785	Shapiro Wilk Test Statistic					0.665		Shapiro Wilk Test Statistic					0.934
2786	5% Shapiro Wilk Critical Value					0.866		5% Shapiro Wilk Critical Value					0.866
2787	<b>Data not Normal at 5% Significance Level</b>						<b>Data appear Lognormal at 5% Significance Level</b>						
2788													
2789	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>						
2790	DL/2 Substitution Method												
2791	Mean					86.97		Mean					-0.339
2792	SD					480.6		SD					1.946
2793	95% DL/2 (t) UCL					156.3		95% H-Stat (DL/2) UCL					8.167
2794													
2795	Maximum Likelihood Estimate(MLE) Method					N/A		Log ROS Method					
2796	<b>MLE yields a negative mean</b>						Mean in Log Scale					-7.191	
2797												SD in Log Scale	6.457
2798												Mean in Original Scale	79.85
2799												SD in Original Scale	475.4
2800												95% t UCL	148.4
2801												95% Percentile Bootstrap UCL	152.4
2802												95% BCA Bootstrap UCL	193.5
2803												95% H-UCL	153000000
2804													
2805	<b>Gamma Distribution Test with Detected Values Only</b>						<b>Data Distribution Test with Detected Values Only</b>						
2806	k star (bias corrected)					0.291		<b>Data appear Gamma Distributed at 5% Significance Level</b>					
2807	Theta Star					2788							
2808	nu star					7.553							

	A	B	C	D	E	F	G	H	I	J	K	L	
2809													
2810				A-D Test Statistic		0.613	<b>Nonparametric Statistics</b>						
2811				5% A-D Critical Value		0.828	Kaplan-Meier (KM) Method						
2812				K-S Test Statistic		0.828						Mean	81.24
2813				5% K-S Critical Value		0.256						SD	473.5
2814	<b>Data appear Gamma Distributed at 5% Significance Level</b>											SE of Mean	42.92
2815												95% KM (t) UCL	152.3
2816	<b>Assuming Gamma Distribution</b>											95% KM (z) UCL	151.8
2817	Gamma ROS Statistics using Extrapolated Data											95% KM (jackknife) UCL	148
2818					Minimum	0.000001						95% KM (bootstrap t) UCL	247.4
2819					Maximum	4500						95% KM (BCA) UCL	171.1
2820					Mean	79.75						95% KM (Percentile Bootstrap) UCL	156
2821					Median	0.000001						95% KM (Chebyshev) UCL	268.3
2822					SD	475.4						97.5% KM (Chebyshev) UCL	349.2
2823					k star	0.0569						99% KM (Chebyshev) UCL	508.2
2824					Theta star	1401							
2825					Nu star	15.03	<b>Potential UCLs to Use</b>						
2826					AppChi2	7.284						95% KM (t) UCL	152.3
2827					95% Gamma Approximate UCL (Use when n >= 40)		164.6						
2828					95% Adjusted Gamma UCL (Use when n < 40)		166						
2829	<b>Note: DL/2 is not a recommended method.</b>												
2830													
2831	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>												
2832	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>												
2833	<b>For additional insight, the user may want to consult a statistician.</b>												
2834													
2835													
2836	<b>Vanadium</b>												
2837													
2838	<b>General Statistics</b>												
2839				Number of Valid Data		78					Number of Detected Data	35	
2840				Number of Distinct Detected Data		28					Number of Non-Detect Data	43	
2841											Percent Non-Detects	55.13%	
2842													
2843	<b>Raw Statistics</b>						<b>Log-transformed Statistics</b>						
2844				Minimum Detected		3					Minimum Detected	1.099	
2845				Maximum Detected		120					Maximum Detected	4.787	
2846				Mean of Detected		17					Mean of Detected	2.351	
2847				SD of Detected		22.73					SD of Detected	0.907	
2848				Minimum Non-Detect		3					Minimum Non-Detect	1.099	
2849				Maximum Non-Detect		3					Maximum Non-Detect	1.099	
2850													
2851													
2852	<b>UCL Statistics</b>												
2853	<b>Normal Distribution Test with Detected Values Only</b>						<b>Lognormal Distribution Test with Detected Values Only</b>						
2854				Shapiro Wilk Test Statistic		0.6					Shapiro Wilk Test Statistic	0.93	
2855				5% Shapiro Wilk Critical Value		0.934					5% Shapiro Wilk Critical Value	0.934	
2856	<b>Data not Normal at 5% Significance Level</b>						<b>Data not Lognormal at 5% Significance Level</b>						
2857													
2858	<b>Assuming Normal Distribution</b>						<b>Assuming Lognormal Distribution</b>						
2859				DL/2 Substitution Method							DL/2 Substitution Method		
2860				Mean		8.456					Mean	1.279	

	A	B	C	D	E	F	G	H	I	J	K	L	
2861	SD					16.98	SD					1.145	
2862	95% DL/2 (t) UCL					11.66	95% H-Stat (DL/2) UCL					9.48	
2863													
2864	Maximum Likelihood Estimate(MLE) Method					N/A		Log ROS Method					
2865	<b>MLE yields a negative mean</b>							Mean in Log Scale			0.902		
2866								SD in Log Scale			1.621		
2867								Mean in Original Scale			8.235		
2868								SD in Original Scale			17.08		
2869								95% t UCL			11.46		
2870								95% Percentile Bootstrap UCL			11.67		
2871								95% BCA Bootstrap UCL			12.53		
2872								95% H-UCL			15.82		
2873													
2874	<b>Gamma Distribution Test with Detected Values Only</b>					<b>Data Distribution Test with Detected Values Only</b>							
2875	k star (bias corrected)					1.094	<b>Data do not follow a Discernable Distribution (0.05)</b>						
2876	Theta Star					15.54							
2877	nu star					76.58							
2878													
2879	A-D Test Statistic					1.717	<b>Nonparametric Statistics</b>						
2880	5% A-D Critical Value					0.772	Kaplan-Meier (KM) Method						
2881	K-S Test Statistic					0.772	Mean					9.283	
2882	5% K-S Critical Value					0.152	SD					16.54	
2883	<b>Data not Gamma Distributed at 5% Significance Level</b>					SE of Mean					1.9		
2884						95% KM (t) UCL					12.45		
2885	<b>Assuming Gamma Distribution</b>					95% KM (z) UCL					12.41		
2886	Gamma ROS Statistics using Extrapolated Data					95% KM (jackknife) UCL					12.2		
2887	Minimum					0.000001	95% KM (bootstrap t) UCL					14.72	
2888	Maximum					120	95% KM (BCA) UCL					13.27	
2889	Mean					7.629	95% KM (Percentile Bootstrap) UCL					12.8	
2890	Median					0.000001	95% KM (Chebyshev) UCL					17.57	
2891	SD					17.33	97.5% KM (Chebyshev) UCL					21.15	
2892	k star					0.1	99% KM (Chebyshev) UCL					28.19	
2893	Theta star					76.3							
2894	Nu star					15.6	<b>Potential UCLs to Use</b>						
2895	AppChi2					7.68	95% KM (t) UCL					12.45	
2896	95% Gamma Approximate UCL (Use when n >= 40)					15.5	95% KM (% Bootstrap) UCL					12.8	
2897	95% Adjusted Gamma UCL (Use when n < 40)					15.71							
2898	<b>Note: DL/2 is not a recommended method.</b>												
2899													
2900	<b>Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.</b>												
2901	<b>These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).</b>												
2902	<b>For additional insight, the user may want to consult a statistician.</b>												
2903													
2904													
2905	<b>Zinc</b>												
2906													
2907	<b>General Statistics</b>												
2908	Number of Valid Data					78	Number of Detected Data					18	
2909	Number of Distinct Detected Data					16	Number of Non-Detect Data					60	
2910						Percent Non-Detects					76.92%		
2911													
2912	<b>Raw Statistics</b>					<b>Log-transformed Statistics</b>							

	A	B	C	D	E	F	G	H	I	J	K	L	
2913				Minimum Detected		8.9				Minimum Detected		2.186	
2914				Maximum Detected		740				Maximum Detected		6.607	
2915				Mean of Detected		67.36				Mean of Detected		3.128	
2916				SD of Detected		171.8				SD of Detected		1.145	
2917				Minimum Non-Detect		8				Minimum Non-Detect		2.079	
2918				Maximum Non-Detect		8				Maximum Non-Detect		2.079	
2919													
2920													
2921				<b>UCL Statistics</b>									
2922				<b>Normal Distribution Test with Detected Values Only</b>				<b>Lognormal Distribution Test with Detected Values Only</b>					
2923				Shapiro Wilk Test Statistic		0.371				Shapiro Wilk Test Statistic		0.744	
2924				5% Shapiro Wilk Critical Value		0.897				5% Shapiro Wilk Critical Value		0.897	
2925				<b>Data not Normal at 5% Significance Level</b>				<b>Data not Lognormal at 5% Significance Level</b>					
2926													
2927				<b>Assuming Normal Distribution</b>				<b>Assuming Lognormal Distribution</b>					
2928				DL/2 Substitution Method						DL/2 Substitution Method			
2929				Mean		18.62				Mean		1.788	
2930				SD		85.07				SD		0.914	
2931				95% DL/2 (t) UCL		34.66				95% H-Stat (DL/2) UCL		11.39	
2932													
2933				Maximum Likelihood Estimate(MLE) Method		N/A				Log ROS Method			
2934				<b>MLE yields a negative mean</b>							Mean in Log Scale		-0.167
2935										SD in Log Scale		2.477	
2936										Mean in Original Scale		16.28	
2937										SD in Original Scale		85.49	
2938										95% t UCL		32.4	
2939										95% Percentile Bootstrap UCL		34.47	
2940										95% BCA Bootstrap UCL		52.59	
2941										95% H-UCL		57.31	
2942													
2943				<b>Gamma Distribution Test with Detected Values Only</b>				<b>Data Distribution Test with Detected Values Only</b>					
2944				k star (bias corrected)		0.516				<b>Data do not follow a Discernable Distribution (0.05)</b>			
2945				Theta Star		130.5							
2946				nu star		18.58							
2947													
2948				A-D Test Statistic		3.071				<b>Nonparametric Statistics</b>			
2949				5% A-D Critical Value		0.793				Kaplan-Meier (KM) Method			
2950				K-S Test Statistic		0.793				Mean		22.39	
2951				5% K-S Critical Value		0.214				SD		83.9	
2952				<b>Data not Gamma Distributed at 5% Significance Level</b>							SE of Mean		9.775
2953										95% KM (t) UCL		38.66	
2954				<b>Assuming Gamma Distribution</b>							95% KM (z) UCL		38.47
2955				Gamma ROS Statistics using Extrapolated Data						95% KM (jackknife) UCL		37.81	
2956				Minimum		0.000001				95% KM (bootstrap t) UCL		138.2	
2957				Maximum		740				95% KM (BCA) UCL		44.94	
2958				Mean		15.54				95% KM (Percentile Bootstrap) UCL		40.71	
2959				Median		0.000001				95% KM (Chebyshev) UCL		65	
2960				SD		85.62				97.5% KM (Chebyshev) UCL		83.43	
2961				k star		0.0732				99% KM (Chebyshev) UCL		119.6	
2962				Theta star		212.4							
2963				Nu star		11.42				<b>Potential UCLs to Use</b>			
2964				AppChi2		4.845				95% KM (BCA) UCL		44.94	

